THE FARMERS' CABINET,
AND
AMERICAN HERD-BOOK,
DEVOTED TO
AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

"The Productions of the Earth will always be in proportion to the culture bestowed upon it."

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For the Farmers' Cabinet.

Cheap Land and Low Wages.

Mr. Editor,—Those who emigrate to this country for the sole purpose of obtaining cheap land will be surprised to find that, in countries much nearer home, land of the first quality is to be had at a price which would place all others high in the scale of rental: neither is it a fact that cheap land will alone —as they fondly imagine—give the means of abundance, or even of comfortable maintenance. The agricultural view of Prussian Poland, that granary of the continent of Europe, and from whence the greatest portion of the grain is procured for the supply of England and France in time of scarcity, affords a lesson on this subject which is worth learning, and will not, it is believed, be soon forgotten by those who study it.

In Jacob's report "on the Agriculture of the North of Europe"—a book of infinite interest to the grain-growers of this and every other country—there is contained a mass of information which ought to be spread amongst us, for no one could contemplate a state of society so truly pitiable as is there depicted, in the midst of advantages arising from *low rents and cheap lands*—which, to many, have charms to allure even to a wilderness—showing very convincingly that

> The worth of a thing
> Is just what 't will bring,

and no more.

During a perusal of the above work, I feel inclined to make a few extracts, and if, at its conclusion, I should find them as interesting as I expect, I shall forward them for your perusal and publication, should you deem them of sufficient importance for your pages.

Mr. Jacob was sent to the north of Europe by the English government, to obtain the most correct information on every subject connected with the supply of foreign grain; of course the state of the agricultural community enters largely into his inquiries, and his descriptions are minute and full of interest. He says, "The national domains are of various qualities of land, and let, some of them for 28 cents per acre, but a larger quantity as low as 18, and even 12 cents; yet the tenants are not, in many cases, able to pay more than the taxes, being ten years in arrear of rent, and having been offered forgiveness of the whole, on promise of making more regular payment in future—a promise they are in general unable to perform, the produce of many of the best farms falling short of the cost of production, even though the rents be given up." He remarks, "from the time I left the Netherlands, through Saxony, Poland, Prussia, Austria, Bavaria and Wirtemberg, I never saw, either in the hotels, the bakers' shops, or private houses, a loaf of wheaten bread! small rolls of wheaten flour might be bought in the large towns, and these, travellers take in their carriages, as a supply from one town to another." This, let it be remembered, in a country from whence England and France look for a supply of wheat in a time of scarcity at home. A landlord informed him that the whole benefit he derived from his estate of 6300 acres, in his joint capacity of landlord and tenant, was no more than the sum which he received for the clip of his wool annually. The tenants of estates, although they cannot be said to want the bare necessaries of life, have very little indeed beyond them; they obtain potatoes, and some little bread-corn, as well as provision for their two oxen; they also grow a patch of flax, and some contrive to keep five or six sheep; meat of any kind they rarely indulge in, and only a few, who are more prosperous than their neighbours, can keep a cow to supply them with milk; they consume nearly all their produce, and are considered happy if they have a sufficient surplus to meet the demands annually for the payment of their taxes and local assessments. The rate of wages is very low, not averaging more than ten cents per day; but those labourers who are boarded in the houses of their employers have a sufficiency of food, rye bread, potatoes, buckwheat-soup, and, in some instances, are feasted with meat—commonly bacon—*twice a week!* The soil is light; the plough, guided by the farmer, and drawn by a single cow, led by the farmer's

wife, constitutes a very common team. The implements of husbandry are mean, the harness without leather or iron; the wagons mere planks set against upright stakes fixed to the sides; the cattle attached by ropes and straw collars; no roller, the clods being broken by hand; the seed, while sowing, being carried in the skirts of the frock of the man who scatters it.

The land is divided into six classes, the rent of the lowest being calculated at 14 cents per acre, for the purpose of levying the taxes, which is 25 per cent. on the rental. The inhabitants live in dwellings provided with few conveniences, and on the lowest and coarsest food; potatoes, rye and buckwheat their only food; linen and woollen spun by their own hands, coarse, and worn as long as they will hold together, furnish their dress; whilst an earthen pot that will bear the fire, forms one of their most valuable articles of household furniture. If they have bees and a plot of chicory, their produce serves as a substitute for sugar and coffee; but too often even these go to market to raise the pittance which the tax-gatherer demands, while their mud houses admit the peltings of the storm through abundance of crevices. In common seasons they suffer much from destitution in winter, while in times of scarcity, such as followed the disastrous harvest of 1816, their distress, and consequent mortality, is dreadful. The most numerous class of cultivators have a limited property in the lands they occupy, under the condition of labouring a stipulated number of days in each week for the lord of the estate, and paying specific quantities of produce, such as poultry, eggs, yarn, &c.; and although they are not *slaves*, yet they are in a condition of great distress, and involved in debt to the lord, so that, although they have the right to leave his service, they must first acquit his pecuniary demands, which few indeed are able to do; and it rarely happens, therefore, that they ever quit the lands upon which they were born. Many estates remain without occupiers; one gentleman, who could get no tenant, was under the necessity of farming his land himself, and to induce persons to come to him, he granted them large portions of the land, built them houses, supplied them with oxen and implements, sowed their land the first year, and fed them until it was converted into food, yet found it a most ruinous concern. And although the inhabitants are not slaves, their condition is not much removed from that state, for when a transfer of property is made, their services are always accounted the most valuable part of it. Their houses, on these farms, are built of wood covered with straw, consisting of one room only, with a stove, around which they and their cattle crowd together, where the most disgusting kinds of filthiness are to be witnessed; their common food cabbage, potatoes *sometimes*, peas, black bread and soup, without the aid of butter or meat! Very little attention is paid to their education, and they are generally ignorant, superstitious and fanatical; passing much time in pilgrimages, in counting beads, and similar occupations. As may be naturally inferred, labour is performed in the most negligent manner, for where no advantage is gained by care in the work, it will be imperfectly executed; all the operations of husbandry, therefore, are ill performed, the ploughing very shallow and irregular, the harrowing ineffectual, the roller unknown, and thus the land is filled with weeds of every description, rendering a complete fallow necessary every third year; the course being, fallow, a winter crop of grain, a summer crop of grain, and then fallow again: the wheat receiving the benefit of the very little manure that is raised from their few miserable cattle. On a pattern farm of 3000 acres, managed with skill by the proprietor, with *no rent to pay*, no profit had been obtained by him for the last four or five years; but in the generality of farms, and under inferior management, the statement would be found even lower than this, the greater part not yielding, perhaps by a third, as much as the estate here mentioned.

But the lands belonging to the crown are differently circumstanced; they comprehend one-third of the whole surface, or about ten millions of acres, two millions in wood, the remainder being arable, and leased to tenants, who are exempt from some of the taxes to which other occupiers are subject; but with this freedom from taxation, the lands are let very low, somewhat less than *six cents* an acre, and yet it is found that this rent cannot be afforded; the tenants are falling into arrears, and the hope of receiving many of them has been abandoned, while in other cases the rent can only be paid in grain. Land, belonging to individuals, and subject to tax, brings but little rent; a farm of 7000 acres being let for a term of six years at 4 *cents per acre;* another of 4000 acres, within twelve miles of Warsaw, with an excellent road to within a mile of it, rents for seven cents per acre, on a six years' lease, and yet the tenant has been hitherto compelled to pay the whole amount of rent out of his private capital.

Amongst the real Poles, there are only two classes of persons, the noble proprietor and the wretched peasant; the gentry, too proud to follow any but the military career, and the government encouraging the feeling, although the pay is barely sufficient to

supply the officers with their expensive clothing.

When estates are sold, the timber and buildings are all included; the buildings being more numerous and more extensive than would be requisite, were the labourers more industrious, their indolent habits requiring a much larger number on an estate; while the severity of their climate renders necessary the housing of every description of stock during the whole winter—their crops also are all housed—and besides this, the number of wolves, which is alarmingly increasing, is so great that no cattle can be left in the fields in the winter; these animals range in packs of from four to fourteen, and no winter passes without several human beings—particularly children—falling a sacrifice to their voracity; and they will undermine the foundations of the cattle and sheep houses to get at their prey.

But in the Austrian province of Moravia is a better state of things, arising from its agriculture finding domestic consumers; a greater proportion of the population can afford to live on meat and use wheaten flour, and hence the agriculturists find a market for their productions: the demand for animal food being greater, a greater stock of cattle is kept, more of the land is consequently devoted to green crops, and thus the growth of grain does not exhaust the land so much as the stock of cattle, by their manure, renews it by its prolific qualities; while in Hungary the want of vent for their surplus grain has so depressed the price of that and other productions of the soil, that they lose by every article they raise except wool; and although, from farming their own land, they have no rent to pay, yet the greatest difficulty is encountered in collecting the trifling taxes that are laid upon them.

In an account of a large estate in Granow, in the Russian province of Podolia, of 130,560 acres, the agricultural labour *including the team*, is paid with 12 *cents*, and other manual labour with 8 *cents* per day, while the production of the soil, on an average of five years, is, rye ten-fold, wheat nine, barley and oats seven, buckwheat six, flax and hemp three, and millet two only! The larger quantity of produce, which cannot be disposed of, is increasing from year to year, it not being possible to find a vent for it in the country. And it is argued, distress is greatest where provisions are cheapest; there is then famine without dearth, hunger amidst abundance of provisions, farmers without a market, and labourers without the means to purchase! In the fall of prices famine originates, the fall preventing the tenant from paying his rent; the landlord, himself bound by debts and contracts, is unable to make abatement; then the miserable stock of the wretched tenantry is seized, the labourer is left destitute without employment, and then ensues a scene of famine and despair, of tumult and bloodshed, only to be suppressed by military force!

The excellent writer then goes on to say, "It has been frequently remarked, that the exportation of grain from any country, if long continued, must tend to exhaust the soil, unless some articles capable of becoming converted into manure are introduced, to compensate for the injury. Many parts of the North of Africa and Asia Minor, which formerly supplied large quantities of grain to Europe, have since become deserts; while from Poland, for near two centuries, the exports of grain have been very large, and, on the other hand, nothing has been imported deserving of notice which could be converted into nutriment to the soil; thus, the system of rotation, by which *two crops* of grain are raised in succession, and nothing is administered to refresh the land but a naked fallow, would soon exhaust the best soil with which we are acquainted. In every part of Poland the impression communicated while looking over the fields, whether of growing crops, stubble, or under the operation of the plough, is, that they are approaching to a state of exhaustion from excessive cropping, although fallowed every third year: and this view, which the rotation of crops and the face of the country suggests, is confirmed by the above statistical facts, which show that its power of supplying the wants of other countries is fast passing away."

Will our friends read, mark, learn and inwardly digest the above, and say, how much of the reasoning is applicable to certain parts of this country, particularly to the exhausted tobacco lands of Maryland. I conclude in the words of the President of the Philadelphia Agricultural Society, "Depend upon it, there is no surer sign of national prosperity than high wages, and God grant that for many a long year it may be the lot of our countrymen, who subsist by the labour of their hands, to *work* well, to be *paid* well, and to *live* well." JAMES COURTLAND.

THE land must be kept clean as a garden, by thoroughly working and cleaning, by hand-picking, pulling and cutting up noxious weeds, as well in the early stages of their growth as after the crops are carried: in short, every opportunity must be seized to *encourage the growth of seed-weeds*, and thereby to prevent them rising with the crop; and this is to be done by harrowing the stubbles after harvest, preparatory to turning them down in the autumnal ploughing.—*Main.*

For the Farmers' Cabinet.

Lime, a Septic.

Mr. Editor,—In the communication of your intelligent correspondent "Agricola," there is one proposition on a point of some practical importance, to which I cannot yield an unqualified assent. It is this, "That lime, and all the alkaline earths and alkalies, are antiseptics, and tend to diminish or impede the tendency to putrefaction, may be easily tested by any person disposed to make the experiment;" and that the attempts heretofore made to explain its beneficial action, on the gratuitous assumption of its hastening the putrefaction of vegetable and animal matter, have failed, not being founded on fact.

Softly, Agricola—not so fast—the experiment *has* been fairly made, and it *has* led to results directly the reverse of such a conclusion; showing, that instead of retarding decomposition or putrefaction (which in chemical language are synonymous terms), the addition of lime, under certain circumstances, promotes and hastens this operation in a very extraordinary manner.

What Agricola means by destructive decomposition, as applied to the present case, I do not perceive: we are taught to believe that in all kinds of chemical decomposition the elements which are disengaged enter into new combinations; forming new compounds, but nothing is ever lost—not one atom. In the chemical changes which take place in the compound, lime must play a conspicuous part, but cannot destroy that which is indestructible. To the phenomena of combustion, to which he compares it, there can be little analogy in its operation upon a mass nearly saturated with water. The error into which I believe Agricola has fallen, arises in this case, as in most others, from a partial and imperfect view of the whole subject, as the sequel will clearly show that the action of lime, under different circumstances, will be attended with opposite results; and this twofold operation is distinctly pointed out, and, to my mind, satisfactorily explained, by that great chemist, to whom agricultural science is so much indebted, Sir Humphry Davy.

He says, that "in soft animal and vegetable substances, which are by nature soluble in water, the mixture of lime forms new compounds, which are insoluble," (of course incapable of further chemical change), "and in this way it greatly diminishes the property of fermentation in the *larger part* of them."

On the other hand, he observes that "lime renders soluble and suitable to the nourishment of plants, some substances which, in their natural state, do not possess this characteristic, and for this purpose the use of it may be very advantageous. *Thus, when it is desirable to convert ligneous and fibrous plants into manure, it may be done by heating them with lime.*" It will therefore appear that the efficacy of lime in the last instance, depends upon its great solvent powers, thereby reducing matter, otherwise insoluble, to that state which will bring it within the range of chemical action, when fermentation at once commences, and is greatly accelerated by the heat evolved during the process. Some years ago, in pursuance of the hint thrown out in the very passage here quoted, I set to work to operate upon a pile of chips at my door, which, in the course of years, had accumulated to a very inconvenient bulk. These were thrown up in the form of a stack, with an admixture of quicklime; in the course of two weeks, a violent fermentation had commenced throughout the mass, by which it was reduced in six months to less than one-third of its original dimensions, having the appearance of fine vegetable mould, and proving a most efficacious top-dressing to a piece of unproductive meadow.

Its agency in promoting the decomposition of that mass of straw and stable-litter, with which our barn-yards are encumbered in the spring, is well known to our farmers, and is often used for that purpose. The *propriety* of the practice is another question—what I contend for is this, that lime, applied in the manner described, will reduce a mass of vegetable matter in six months to the same state precisely which it would require years to arrive at by the ordinary course of decomposition, and that it may be used for this purpose in many cases, with much advantage.

Arator.

Kishacoquillis Valley, Jan. 3, 1841.

Prevention of the Dry-Rot.

Sir W. Burnett's process for the prevention of dry-rot, consists in applying a solution of muriate of zinc to the cloth or other substance to be preserved. It is very much cheaper than where preparations of mercury are used; and to show how well it operated, Dr. Reid exhibited two sets of specimens, in every respect alike, of soldiers' cloth, sailcloth, ropes, &c., which were placed and kept a year in one of the dampest cellars in Somerset House; the one set being in their natural state, and the other impregnated with the muriate of zinc; and while the former were quite rotten and had lost their colour, and were easily torn to fragments, the latter were as fresh in colour and as strong in texture as when they were put in.

For the Farmers' Cabinet.

Facts.

"FACTS ARE STUBBORN THINGS."

1. A POOR farmer will be a poor man.
2. A large manure-heap makes a full granary.
3. Intelligence to plan, industry to execute, and economy to preserve — prosperity follows.
4. Ignorance, idleness and waste are followed close in the rear by distress, poverty and want.
5. The interest and happiness of the owner of all domestic animals are promoted by kind treatment, full feeding and cleanliness.— Try it.
6. Poor tillage, poor crops.
7. To raise an abundance of grass is the foundation of all good husbandry, and should be the first and last effort of every person who desires to be a successful and prosperous farmer.
8. Plants derive their nutriment from the soil, and every crop removed takes away part of its productive power, which an *honest* farmer will take pleasure and derive profit from restoring as soon as possible.
9. Those who trespass on the kindly disposition of the soil to produce crops, without making adequate returns to it, are soon brought to judgment.
10. A wise man will spread neither his manure nor his labour over more ground than will enable him to attain a maximum result.
11. Postponing doing right, is doing wrong.
12. A well-cultivated garden is the most profitable part of a farmer's domain. A.

Intemperance.

IT is this that fills the dockets of our courts with cases of dishonesty and fraud; that furnishes the loathsome dens of our jails with inhabitants, and supplies our gibbets with victims. It lays the axe to the root of all happiness; destroys all order, peace, and quiet in communities, and is the death of all friendship, esteem and love in families. It is the poison of friendship; the bane of society, the ruin of governments, and the grave of religion; it enfeebles health, destroys wealth, overthrows happiness, and blights the moral feeling! No human imagination has ever yet conceived one half the horrors of this giant-vice; in its ferocity it regards neither age, sex, or condition; the crowned head is not too high for the fiend to drag to the gulf of ruin, nor the beggar too low for it to plunge into the vortex of woe. This vice alone costs our country annually one hundred millions of dollars, and gives us, in return, nothing but poverty, blasphemy, infidelity and crime; and while it opens up the flood-gates of misery upon us, it is, vampyre-like, sucking away our strength, and exhausting our energies, weakening the means of our existence, and paralyzing the arm of our strength! "In a single year," says an eloquent writer, "could all the effects of this vice be collected into one group, it would present to the eye an army of three hundred thousand drunkards — not made up of the old, the feeble and decrepit, but of the middle-aged, the stout and the hearty, enlisted from all professions, the shop, the counter, the bar, the bench, and the PULPIT — seventy-five thousand criminals, and two hundred thousand paupers: and in the group would be seen thirty thousand of our countrymen annually dragged to the grave! With such an army Bonaparte might have overrun all Europe, and decked his brow with the garland of universal triumph!" NASH.

Protection of Sheep.

THE increase in the growth of sheep, and their aptitude to fatten, when fed in a shed in an open yard, is extraordinary; and yet the principle is one which we all acknowledge, namely, every thing that eats, if it has plenty of food, warm shelter, and nothing to do, must increase: but I have discovered, by repeated experiments, that such animals not only increase more rapidly in their condition and weight, than those exposed to the open air, but also that they consume a much smaller quantity of food, less by at least one-third, while their increase is a third greater in weight.

At the beginning of the season for fatting, I built a shed to contain eighty lambs, covering the floor with a few planks, thinking this better than to give them straw to lie on, for when wet, this is apt to give them the foot-rot. I brought in my sheep, at Christmas, and found that before the end of two days they did not eat so much as when they were in the field, by the proportion of three to five, for while abroad, they ate fifty baskets full of turnips, but, confined to the yard, they ate only thirty baskets a day, therefore their improvement was in the inverse ratio of their cost in food; yet such great progress did they make, that one would have thought they were eating fifty baskets a day while shut up, and thirty while in the field. I gave them a small quantity of oil-cake with their turnips, and the size which they attained was so great, that, at thirteen months old, I sold them for 8 dollars and 50 cents a-piece, without their wool. I calculate that turnips, pulled and brought to the sheep in the sheds, will go twice as far as when consumed by them in the field.

J. W. CHILDERS.

For the Farmers' Cabinet.

Draining.

Mr. Editor,—That is, indeed, a novel mode of draining which you describe, at page 236 of the Cabinet, as Smith's of Deanston. What, to cut the drains *down* the slope instead of *across* it, and carry them regularly through the farm, without regard to subsoil or topsoil, and to the amount of *one hundred miles* on one farm? I suspect that Mr. Smith does not depend wholly on farming for a living; perhaps he is like my friend Searle of Pitplace, who used to say, if it had not been for *Mister* Searle, *Farmer* Searle would have broken up before this. Assuredly this mode of draining is not only unnecessary but highly improper, upon principle—not that it is impossible to drain land by carrying the cuts down the hill, if there be enough of them, for if a distance of ten feet be too great, it might be reduced to five; but the *principle* is wrong, for, as you very properly observe, under-drains ought always to be conducted on as gentle a descent as is expedient to draw off the water, to prevent the possibility of washing or cutting the bottom of the drains, or they will blow up to a certainty. Under-drains act mainly by capillary attraction, and will generally operate more effectually on a gentle slope than on a very rapid one. I should say Smith's plan is contrary to rhyme and reason.

I have now before me a remarkably neat little volume, "The young Farmers' Manual," by J. Main, in which there are some very interesting observations on this most important of all operations, and I should be glad to copy them for the consideration of your readers; he goes on the common sense principle, that all wet land requires draining, but it is little short of insanity to drain a porous soil *when no water rises from the subsoil, and none can remain on the surface.* He says,

"The whole art of draining consists in obtaining a right knowledge of the causes why one portion of the surface of the earth is wet and retentive of moisture and another not. The surface is composed of various strata, some of which are pervious and others impervious to water; it is variously elevated or depressed, and as water always finds the lowest place, if there be no obstruction to its downward course, we find natural pools in the hollows, and dry, porous earth on the knolls; but these circumstances are not always present, for we often see dry valleys and springy hills, but this depends on the character of the surface strata and subsoil, for where there is much undulation of the surface, many of the eminences are clay, and any depressions on these heights are receptacles for water; to drain these pools, it is only necessary to lay a course of draining tiles into the nearest ditch. But many valuable fields are rendered worthless by the abundance of land-springs; these proceed from porous strata lying between strata of a more dense or clayey quality, and as these often alternate with each other and *crop out* at different heights on the sloping side of a hill, they occasion much expense and labour to drain it thoroughly; but as the sources of these springs are always *above* the place where they ooze out, a drain to catch the water must be made *above* the wet spot, and opened down to the bed of clay over which it percolates, when, if it be filled with stone or coarse gravel, and led away off the bed of clay, will for ever prevent the water appearing again on the surface. But when several of these land springs issue out one above another, on the sloping side of a field, open several diagonal drains *across* the slope, to catch the downward currents, by which means the water is checked in its course, and effectually prevented from ever flowing to the surface. But it sometimes happens that the strata of clay and gravel lie so near each other, that an iron bar or dibble driven through the upper stratum of clay will let off the water from the upper drain; and it was this perforation of the upper sustaining bed of clay by dibbles" (that is now ridiculed by Smith of Deanston) "that gained Elkington so much honour and emolument in his system of, and for his institutions for draining."

In fixing the directions of drains, a regular descent must be obtained into the nearest natural outlet, but very great care must be taken that the fall from the source to the outlet be not *too precipitous*, for otherwise the drain, however well formed, will soon become choked-up, in consequence of a rapid current always carrying sand and other loose matter before it, until it accumulates against some obstruction, when the drain blows up, and is no longer of any use: a fall of one foot in fifty is fully sufficient for any under-drain.

In a turnip field, on which I meant to fold my sheep by means of hurdles, I noticed a dip in one corner which was retentive of water in wet seasons, and from which there was no visible outlet; but I saw at the same time that the nearest ditch was cut through a bank of gravel, which appeared always dry; now it occurred to me although the gravelly bank was higher than the loamy dip, that by digging a deep drain from the latter —the wet dip—to the gravelly bank, a *swallow* might be gained, which would constantly absorb all the water which might at any time be collected in the loamy soil; I therefore first sunk a cess-pool (according to Elkington's mode of draining) six feet deep, and

five feet in diameter, in the lowest part of the hollow, and from that digged a trench to the dry gravel ditch; the cess-pool and drain therefrom were then filled with clean stones gathered from the land to within a foot of the surface, and I found in this, as in all similar cases, that the plan pursued was quite effectual in drawing away the surface water. And it may be stated as a general rule in draining, that if there be very wet and very dry spots of ground contiguous to each other, an under-drain from one to the other will lay the whole dry, oftentimes with a very short cut, and at little expense—the proper Elkington plan—and many wet and worthless spots may be most effectually laid dry, by merely digging a hole on one side and filling it with stones."

Now this system is reasonable and consonant with common sense, and has been conducted with the most perfect success for a great number of years; and if persons would practise only as much as what might be denominated "Elkington's plan," that is, to drain only where it is necessary, either by covered drains across the slope, or boring, they would not need to adopt a system which would entail an expense of 45 dollars per acre, and carry an extent of one hundred miles of drains on a single farm.

JOHN FERRIS.

Berks County.

For the Farmers' Cabinet.

Stall-fed Sheep.

MR. EDITOR,—I find in the Quarterly Journal of Agriculture, a very interesting account of two experiments on stall-feeding sheep. One is at a loss to comprehend why this is not oftener practised in this country than it is, for the advantages would be great, not only in the supply of the market with a superior quality of meat, but to the feeder, who would find a ready sale for his sheep, at a considerable advance in price: while the convenience of stall-feeding sheep—their quiet, cleanly habits rendering them a peculiarly pleasant *household family*—must be apparent to every practical man. After this, comes the advantage in point of quality and quantity of wool, the first of which ought to weigh with the wool-buyer in this country, as it does in every other where this system is pursued. The greater variety of articles as food for fatting sheep, which might be grown here, would be of very considerable moment, for to no other stock is a change of diet of so much importance, as is well known to all who have practised the system of stall-feeding, whether for making fat mutton or house lamb.

The first experiment was conducted by Mr. Wilkin, with sheep, a cross between the Cheviot and Leicester or Dishley, of the age of over one year, denominated technically, *Hoggs*. The best sheep in the lot weighed 157 pounds alive, indicating about twenty pounds per quarter, dead weight; they had been kept in a shed and open court since the 25th of November—the time of slaughtering being the 16th of April—and the average increase of live weight during that time on each sheep was forty-eight pounds and a half. The daily weight of turnip for each sheep was 17 pounds, and the cost of grain and oil-cake for each was seven shillings and sixpence. The increase of value was from 22*s.* to 25*s.*, and afforded a considerable profit on stall or house-feeding.

The second experiment was made by Mr. McBryde. During the month of December 1838, he tied up a number of the pure Leicester breed in stalls, and fed them on turnips, rice, sago, sugar, and linseed oil; and in December 1839, he tried the same experiment on a lot of common-bred wethers; he gave them daily a quantity of linseed, and as many turnips as they would eat, and the experiment far exceeded his expectations. The quality of the mutton was of the finest description, and the wool, by being sheltered, one day from the cold and drenching rains, and the sun and drying wind the next, was soft and fleecy, far superior to that on the same kind of sheep which had been fed abroad; and another great advantage which the stall possesses over the field-feeding is, preservation from the diseases which the damps and vicissitudes of the weather often engender. The whole lot was sold to Mr. Boyle for slaughter, and so high was his opinion of their excellence, that he paid seven shillings per head more for them than for others of the same lot that had been field-fed.

Mr. McBryde remarks, "although the last lot has proved exceedingly prosperous, yet the pure-bred Leicesters were more so; and although at first confinement to the stall they consumed a greater quantity of turnips, yet in the end there was a great saving, as they did not require nearly so much as they would have done in the fields. The nutritious quality of the linseed made the mutton of the very richest flavour, peculiarly firm and juicy." He expresses his opinion that many farmers will try the experiment, for during both seasons those tied up in the stalls were exceedingly healthy—far more so than the lot from whence they were taken at random, and required but little attendance. The first which was killed weighed 82 lbs. of mutton, having 18 lbs. of fat. JOSHUA STILES.

Berks County.

To the Editor of the Farmers' Cabinet.

Mammoth Chicken.

Sir, — A friend has taken me to the Mansion House tavern to see a pair of chickens, which deserve, I think, to be recorded in the Cabinet, the *quantity and quality* being so much superior. They were of the real black-legged variety of fowls, and weighed eighteen pounds and a half, having lost three quarters of a pound by evaporation, weighing nineteen pounds and a quarter the day before, when killed and dressed. They were bred and fed by Mr. Wood, of Haddonfield House, New Jersey, and are of a breed between the blue and black, having been crossed with great care and attention. The eggs of these mammoth fowls weigh six to a pound.

While viewing these fowls, I could but ask myself, How long will New Jersey be doomed to lie under the ban of sterility? Every one who does not reside there has a bad word for it, and the "barren sands of Jersey" have passed into a proverb — and yet we see nothing of this in the market — as John Lawrence says, where prejudice cannot find its way; for it is well known, first, that in the Jersey Philadelphia market are to be found the choicest of all the productions of the earth, whether of the farm, the garden, or the orchard; and second, the highest prices are obtained on account of their being *Jersey;* for if we remark on the high price of an article, we are told, "Oh! it is Jersey"! and it is well known that many articles, if of superior quality, are sold at unusual prices as *Jersey*, that have never come from thence, particularly sausages, made from "Jersey pork." And although we receive from thence the earliest, the fairest, and the best of every thing, yet there is not a boy in our streets who has not heard of "the barren sands of New Jersey."

I may add, as a remarkable circumstance, the beautiful town of Haddonfield, containing 780 inhabitants, is so healthy, that it can support but one physician and a half, and so peaceable, that an attorney has never yet been able to get a footing there! J. D.

Philadelphia.

On Clover Sowing.

The red or broad clover is usually sown with barley in England, unaccompanied with other grasses: in this case, ten pounds of seed per acre is the least quantity that ought to be sown, but if the crop is wished to be thick and fine, four or six pounds more of seed should be added, for if this plant be sown thin on rich land, the stalks will be so large and rank as almost to unfit it for the food of cattle, unless cut into chaff; therefore, by sowing thickly, the plants, although thicker in the swathes at the time of cutting, will make much finer hay, and be preferable for every purpose of feeding, although the larger the stalk and the stronger the crop the greater is its nutritious property considered. Red clover should always be cut so soon as the first blossoms are well expanded.

When other grasses are mixed with the clover to form perennial pasture, the following mixture is most approved, viz: 6 pounds red or broad clover, 3 pounds Dutch white clover, 2 pounds yellow clover, and one peck and a half, or three gallons, of Pacey's perpetual ray-grass—these, well-mixed and accurately distributed, form the necessary quantity per acre. But, after all, many excellent farmers increase the above quantity; and it is false economy to grudge a full allowance of seed. The grasses to be sown as soon as the barley is sown, harrowed and rolled; when a single *tine* of the harrow, on this pulverized and rolled soil, is sufficient to cover it as deep as is requisite. X.

Measuring Corn.

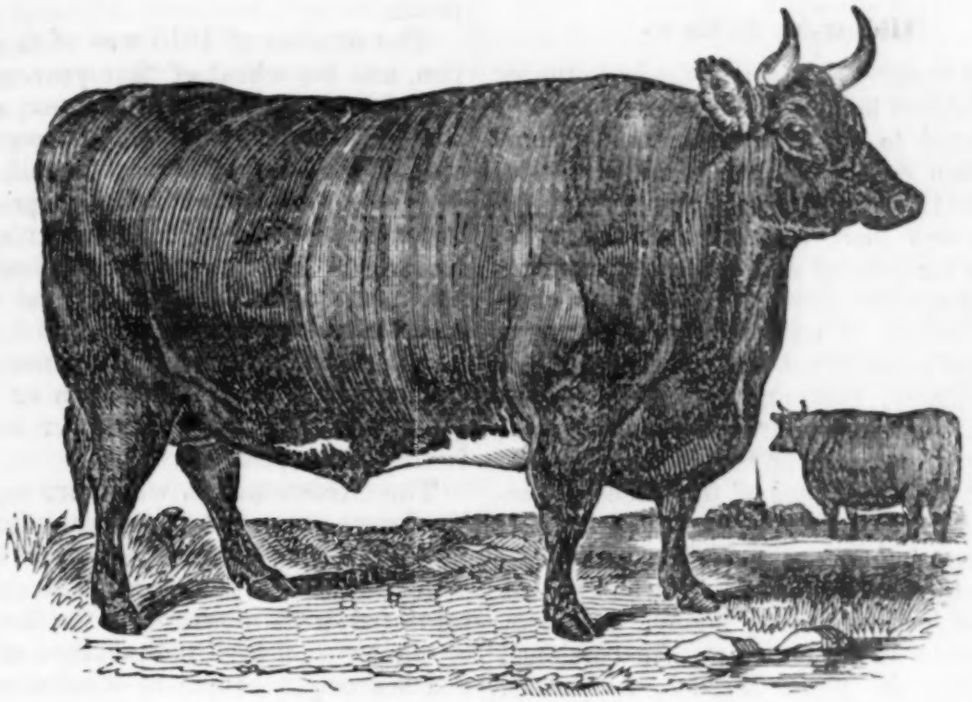
The following rule for ascertaining the quantity of shelled corn in a house of any dimensions, is by Wm. Murray Esq. of South Carolina, and was read before the St. John's Collection Agricultural Society, and communicated by them for publication in the Southern Agriculturist.

Rule. — Having previously levelled the corn in the house, so that it will be of equal depth throughout, ascertaining the length, and breadth, and depth of the bulk; multiply these dimensions together, and their products by four, then cut off one figure from the right of this last product. This will give so many bushels and a decimal of a bushel of shelled corn. If it be required to find the quantity of eared corn, substitute eight for four, and cut off one figure as before.

Example. — In a bulk of corn in the ear, measuring 12 feet long, 11 feet broad, and 6 feet deep, there will be 316 bushels and eight-tenths of a bushel of shelled corn, or 633 bushels and six-tenths of ear corn, as:

12	12
11	11
132	132
6	6
792	792
4	8
316,8	633,6

The decimal 4 is used when the object is to find the quantity in shelled corn, because that decimal is half of the decimal 8, and it requires two bushels of ear corn to make one of shelled corn. In using these rules a half a bushel may be added for every hundred, that amount of ears results from the substitution of the decimals.—*Amer. Paper.*



THE KINTORE OX.

This remarkable animal was bred by Lord Kintore, of Keith Hall, Scotland, from an Aberdeenshire cow and an improved short-horn bull, and was calved in April, 1837. The above engraving is from a portrait, painted by Cooper when four years old: he was then supposed to weigh 1400 lbs.

He was exceedingly docile, his greatest pleasure being to associate with the dairy cows when they came to the yard to be milked, and talk with them; when approached or handled he would scarcely move, but would not suffer the man who once bled him to come near him for a week. He was fatted on cut grass, turnips, hay, oatmeal and oil-cake, a lump of salt being placed in the manger, and a basket of fresh mould always standing before him, of which he would occasionally eat a considerable quantity, which operated as a gentle purgative. At 5 years old, rising 6, he was supposed to weigh 2560 lbs., being universally admired for his beautiful symmetry, the equable manner in which the fat was laid upon him, and his almost perfect levelness from the shoulder to the tail.

The cattle of Aberdeenshire are small, hardy, but not docile; living and thriving, to a certain extent, on scanty fare, but with a disposition to grow to the full extent of which their natural form is capable, when conveyed to the richer pastures of the south; often, however, at the age of 4 years, not weighing more than 350 lbs. An effort to improve them, was first attempted by a cross with the long-horns, but this proved a total failure; nor was the experiment with the short-horns uniformly successful, as they either did not amalgamate with the native breed, or produced a species of cattle too large for the soil; in the case above-cited, however, it was eminently successful, and proved a splendid exception, showing the deep capacity of the short-horns to perfection. Lord Kintore is a great advocate for one cross with the short-horns and the Aberdeen breed, and this animal was a sufficient proof of what might be effected by it; but the breed is found rapidly to degenerate if the cross is farther pursued. It is remarkable how much any *distinct breed* is affected by a single "dip" of the improved Durhams—itself a mixed breed—and how, in particular, the growth of the horn shows it: the Aberdeenshire cattle are very deficient in the beauty of the horns, as they stand nearly erect, but sloping somewhat backward, and yet the horns of the Kintore ox were very handsome, and in perfect harmony with his beautiful symmetry and proportions. And the importance of a single cross is plainly perceivable in the progeny when only a day old, especially in the formation of the hind quarter and over the loin, adding depth and capacity to a carcass, which would otherwise have remained as thin and gaunt as any of its progenitors; at the same time, it is but fair to acknowledge that an addition of beef is not always obtained, without a correspondent falling away of the milking propensity, and therefore the cross with the Alderney—whose only qualification is butter—is not to be recommended.

For the Farmers' Cabinet.

Mildew, or Meldew.

After reading an essay in the last number of the Cabinet headed "Blight on Wheat," I was induced to read what numerous authors had written on the subject of mildew, rust, and blight; but on reflection, in regard to the *terms*, it was thought best to expunge the latter, as too general and indefinite to be applied to a specific form of disease, the character of which is well known to farmers, though the *cause* is not well understood. We say, familiarly, that any species of grain, fruit, &c., that fails in arriving at perfection, is *blighted*, without any reference to the form, character or cause of the disease or accident, which has given rise to the failure.

The term *mildew*, or *meldew*, which I suspect was the original word, is formed of the word *mel*, which means honey, and *dew*, which needs no explanation; the combined term being, in plain English, *honeydew*, which, no doubt, took its designation from a sweet substance found on the surface of the wheat after it became diseased, and which is now believed to be the excrement of very small insects, which attack the plant after the hand of death has come upon it, and decomposition has commenced. The term *rust* needs no explanation to the farmer who has once suffered by this form of disease in his grain crop. These two terms indicate forms of disease, both of which, it is believed, proceed from one common cause, and are only slight modifications of the same disastrous malady.

Some of the authors which have been examined, ascribe the disease to great heat, some to hoar frost or cold after great heat, electricity, diseased seed, disease of the root of the plants, the presence of the barberry bush, fungi, insects, wind from particular quarters, and various other causes, all equally unsatisfactory.

It is pleasant and satisfactory to be able to trace the diseases, both of animals and vegetables, to their true cause, even if we should not be enabled to prescribe a remedy for them; and upon reflection in regard to the various circumstances connected with the mildew in grain-crops, some thoughts have arisen and have matured into opinions, which I will throw into the common stock, that farmers may judge of them, and see how far they agree with their own experience and observation.

The conditions under which it is believed that wheat arrives at the greatest perfection are, a cool season and a reasonably dry atmosphere at the time of the filling and maturation of the grain; it being assumed that the soil is sufficiently moist to furnish the requisite nutriment for a healthy state of the plants.

The summer of 1816 was of this description, and the wheat of that year was of extraordinary weight and fineness; and what was then considered of equal importance, the crop, when brought to market, sold for three dollars per bushel of 60 lbs., a price it has never since commanded. A worthy farmer, residing in Montgomery county, had that season an average of 32 bushels and 8 lbs. per acre for his whole crop, and sold it for 3 dollars per bushel, being a little more than 96 dollars per acre, and the farm on which it grew cost him 24 dollars per acre some twenty years previous.

The circumstances, which are supposed to be always present in a greater or less degree when the crop becomes diseased with *mildew*, are the following, viz: The atmosphere saturated with moisture, in the form of fog or otherwise, a high temperature of the air, and scarcely a breath of wind stirring, the latter being a necessary consequence of the former conditions, because, if the wind was active, the moisture would be dissipated and the heat rendered less sensible. In fact, such weather as is familiarly known by the term hot and muggy, and which sometimes relaxes the human system to that degree that it seems as if it was on the point of dissolving; the reason being, that the air is so saturated with moisture that it refuses to take up the insensible perspiration from the surface of the human body, and the heat, which would necessarily go along with it, remains pent up within us, without a possibility of escape, to our great suffering and discomfort.

There are other conditions of the crop, which render the above circumstances more certainly fatal, but it is doubted whether *alone* they would be much detrimental in producing mildew—such as a very succulent, vigorous growth, produced by manuring too highly, &c.

Now for the *theory*; the word I don't like much, because farmers in general complain so much about theories; but have them we must, while men continue to *think*; for if we think about facts, we are constantly forming theories, in spite of our wishes to the contrary; but theories are only bad or wrong when they don't explain facts, and of this every man must judge for himself. If theories are true and give sound reasons for things, they are good theories, if not, they are bad, and should be discarded without ceremony.

All plants derive their nutriment from the earth, and take it up in a state of very dilute solution in water; this is elaborated in their organs, in a way incomprehensible to us, and deposited where it is needed, to promote the

growth and expansion of the plant, and enable it to perform the functions designed in its creation; and the great object would seem to be, to cause it to perfect its seed and continue its species. When this deposit of nutriment is made, the water, which was its vehicle of conveyance, is thrown out of the plant as excrementitious by proper exhaling vessels, and is dispersed, in the form of vapour, in the atmosphere, and the vessels of circulation, which are in continual action, introduce continued supplies of similar nutriment duly prepared for deposit, and throw off the water as before, so that there is never a vacuum in the plant.

This process is in continual action till the plant is perfected, and the quantity of water thrown off during the progress of vegetation is almost incredible, as would appear by some very accurate experiments made to indicate the amount. Of 15 parts of water taken up by some plants, 13 are transpired, and of the lowest on the scale, of 5 parts taken up 4 are discharged by exhaling vessels.

Wheat and other plants, when they have acquired their full growth, commence the interesting business of perfecting their seeds, in order to perpetuate their kind; and then nature brings all her powers into requisition to effect this remarkable process. The vessels of the plant are distended with the proper fluid making its way to the seed-vessel, which has been duly prepared to receive it, which is there deposited in the form of a milky juice, when the water, which has been the vehicle for its conveyance, is discharged through exhaling vessels into the atmosphere, and another supply from the same source is constantly in the rear, to be disposed of in a similar manner; and so the process goes on —provided there is no unfortunate interruption from external causes—till each grain is filled with farina, when, the great work being completed, the circulation ceases to be carried on, and the whole is dried and hardened for preservation.

When this process is going forward, it will be perceived that a vast proportional quantity of water must be constantly discharged into the atmosphere, otherwise, space would not exist in the hull of the grain for additional supplies of the diluted nutriment, which is continually arriving at its destined depository; but should the atmosphere at this critical period unfortunately be *saturated* or *surcharged* with *moisture*, as has been before hinted, it will be unable to take up and carry away that which the grain must necessarily part with, and which is now an incumbrance to it, in order to make room for an additional supply of the fluid which would increase the deposit of farina. This inability of the air to take up an additional load of moisture, under the circumstances of its previous *saturation*, prevents it also from carrying off the heat from the wheat, so that the temperature of the whole plant is increased much above the proper standard of its healthy action; for the temperature of plants that transpire moisture freely is constantly kept many degrees cooler than the surrounding atmosphere, or bodies destitute of vital action. This retention of excrementitious moisture suspends the circulation, for it can't move unless it can get vent, and that and the expansion occasioned by increase of temperature produce congestion, and burst the vessels of circulation, and discharge their contents into the cellular tissue, destroy the vitality of the plant, and leave the hull only partially filled with farina. Heat, air and moisture, the agents of putrefaction, being present, decomposition begins, and the surface of the plant soon displays signs of decay. This destructive process first shows itself in the smallest part of the stalk, near the head, which is of most recent formation, and consequently most succulent and tender, and most liable to rupture. The rust is probably occasioned by the heat and internal pressure enlarging the pores of exhalation and discharging the sap on to the surface of the stalk, and when evaporation carries off the moisture, the residuum displays itself somewhat like the rust of iron. After the rupture and discharge of the sap-vessels, the surface of the plant is covered with mucus which is adhesive, and this will account for the seeds of fungi, which are supposed to be floating in abundance in the atmosphere, taking root and vegetating in the decaying structure; and hence the supposition, that fungi are the *cause of mildew.*

The presence of animalcula may be accounted for on the same principle, for nature is ever economical, and wherever animal or vegetable substances are in the progress of decay, mouths are found ever ready to convert dead matter into food for living things, so as to perpetuate the largest possible amount of animated existence. On the death of the plant, the tender succulent fibres of the roots immediately decay, and on drawing them from the ground, the appearance of them has led many to suppose that they had thus discovered the true *cause* of the disease of the plant, when, in fact, it was only the *effect* of its previous dissolution.

It may be objected, that if the mildew is the result of a general saturation of the atmosphere with moisture at a particular period, that all wheat should be equally injured by it; when the fact is well known, that of contiguous fields one will be destroyed and the other remain uninjured. This apparent contradiction is accounted for by the unin-

jured wheat being more forward in filling than the other, for the whole mischief takes place in a few days, perhaps a few hours; and where the grain has received the requisite supply of nutriment the circulation is diminished or suspended, and there is no danger of injury from the canals breaking their banks and overflowing.

The grain in the same inclosure is often partially injured; in low and damp spots, or where it is lodged, for want of the requisite circulation of the air to dissipate the moisture, the injury is great from mildew; when in the higher and drier parts of the same field, it is protected from injury, by a freer circulation preventing the mischief by carrying off the excess of moisture and promoting a healthy transpiration from the plants.

The elasticity of plants favours their being put in motion by the wind, and this no doubt increases the circulation of the sap, in the same way that motion in animals promotes the circulation of the blood; and, at the same time, it favours the evaporation of moisture and promotes a healthy condition. On this principle, it is supposed that good may arise from passing a rope extended across the ridges of wheat in such manner as to communicate motion to the stalks, and in some measure dissipate the excess of moisture on the principle of *fanning*, as has been recommended by some writers on the subject of mildew. But perhaps the most effectual plan of guarding against this fatal disease would be to seek for and sow only the earliest varieties of wheat, which fill before the season arrives most likely to be accompanied by that condition which is the cause of the injury.

AGRICOLA.

To the Editor of the Farmers' Cabinet.

The Jersey Cow.

SIR,—I am much pleased with the pretty, meek-looking animal, at page 153 of the Cabinet, for December—the exact likeness of one in the possession of my excellent friend Paschall Morris, of Allerton, whose character for butter bids fair to rival some of those individuals of which we have read and heard so much. And I can bear my testimony to the value of that breed for the dairy, for I too have kept them for that purpose many years; but I could not find that they consumed more food in proportion than other cattle, while their convenient size, especially in their stalls, where they were soiled with green and root-crops the greatest portion of the year, was found very much more desirable than larger animals: with regard to the richness of their milk, there have not, I believe, ever been two opinions on the subject.

The docility of the Jersey cow is proverbial—so also is, unfortunately, the ferocity of the Jersey bull, although to appearance, he is mildness itself. I remember a friend bringing thirty-six of these beautiful cows and two bulls into Wales, direct from the Island of Jersey; and, wishing to increase the hardiness of the breed, to enable them the better to bear the climate of that country, he selected a number of the handsomest heifers from a drove of Scotch Kyloe cattle, just brought upon the mountains, and crossed them with the Jersey bull. The calves from these were permitted to follow their dams on their pasture during the whole year, and grew up the most beautiful creatures imaginable; hardy as they, but from the day of their birth they exhibited a wildness of disposition far beyond that of their dams, or of any other breed upon the mountains. It was attempted to rear a bull of this cross, but at a year old he was so wild, that a look from a person going into the field where he was kept, would send him over the wall, five feet in height, as fleet as a deer! The steers and heifers of this cross were quite ferocious, and although they were fatted in stalls, could never be approached with safety until they were tied, which was often the work of two men. In attempting to secure one of these in a yard, he took a leap at a shed, mounted the roof and leaped from it on the other side like mad: and, at the time of slaughtering, it was found necessary to shoot one of the steers in the stable, no one daring to approach him. The beef was black and liery, with a disagreeable taste, very muscular, with little fat, although they were "sweet handlers," as the butcher termed it. The Jersey bull, the sire of these heifers and steers, after pasturing in the fields with the dairy cows, turned ferocious and gored his keeper so dreadfully, that his life was for some time in great danger, nor could he have escaped, had not the bull tossed him clean over the fence of the field!* So there was an end of crossing Scotch heifers with the Jersey bull; had the experiment been made on Jersey cows by a Kyloe bull, there is reason to believe the desired end would have been accomplished.

But by this experiment of bringing the pure-bred Jersey cattle into a different country and climate, it was proved that they were as able to bear the climate of the hills as those of other breeds; so it is an error to suppose they are less hardy than other stock—for with common care and food, they improved so as to command from 130 to 150 dollars each, at the time of sale.

The expense and risk of importing cattle

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* The animal was found, a few days after, dead in his pasture, having been shot by some person unknown.

from the Island to this country would be great, but it is conceived that it might be accomplished at less cost and much more convenience than has been sometimes incurred, in vessels consigned to the Island on charter; as preparations could be made for taking on board a considerable number; none of them should, however, be more than a year and a half old and in calf; they are then small, and would bear close stowing.

Your Subscriber, J. E.

Darby.

To the Editor of the Farmers' Cabinet.

"The barren Sands of Jersey."

Sir,—I have been much interested with Mr. Gowen's communication relative to the culture of his farm of 40 acres and its products; such an instance of devoted and untiring industry is deserving the highest commendations. To those who are acquainted with the nature of the soil which he cultivates, his success must be surprising, for who could contemplate the possibility of raising such magnificent crops of roots—beets, carrots and parsneps—on a soil which, only five years ago, was impenetrable to an iron bar, at a depth of three or four inches from the surface? But so it is; and truly has it been said, "To do much, we must have much to do"—witness also the agriculture of the Eastern States, where the most perfect systems have been adopted, amidst the greatest disadvantages of soil and climate, and the triumph of *mind over matter* has received a most decided illustration—I say, I have been highly interested with Mr. Gowen's statements, and rejoice in the instance which it furnishes of the truth of your motto—"The productions of the earth will always be in proportion to the culture bestowed upon it."

But there is a portion of our country, lying at present under the ban of sterility, which would not, in such hands, be found a whit behind the most favoured in point of productiveness; at the same time, it enjoys a facility for improvement which no other country, perhaps, possesses—I mean New Jersey, that country which is everywhere spoken against, and whose *barren sands* have passed into a proverb and a by-word. During a day which I lately spent there, in company with *the Cooper family*, I had come to the conviction, that there is no part of the United States which offers a fairer field to the view of the agriculturist than New Jersey; its perfectly inexhaustible beds of marl, crossing, as they do, so great a portion of the State, offering such facilities for improvement as are quite incalculable, and its mild and dry climate and proximity to the best markets, rendering it the most desirable of all situations for the agriculturist and horticulturist, particularly for the cultivation of flowers, the soil having been ascertained to be peculiarly adapted for their perfect blooming—the dahlias especially.

Various have been the estimates of the importance of marl in the improvement of the Jersey soil, but they have all fallen far below the actual results. In my late visit I became acquainted with some instances, showing the most astonishing products that have been reaped from the use of it and improved tillage, and, with your permission, I will mention one or two, which are, however, by no means solitary cases.

Mr. John Gill cultivates a farm of 30 acres in Haddonfield: a portion of the land is situated on a hill-side, and is, therefore, not so highly improved, but upon these 30 acres he kept the last year such a number of cattle, and grew such quantities of produce as were quite astonishing to every one; would he give a statement for the pages of the Cabinet?

Capt. James Cooper said, "In the year 1793 I travelled eight miles before I could find a farmer who had it in his power to supply me with a single ton of hay; on going over the same road at this time, I could purchase more than two thousand tons; many of the farmers cutting upwards of a hundred loads yearly. My friend S. R., whose farm, a few years ago, yielded nothing but blackberries, and was one uncultivated waste, produces the finest crops of wheat, and other grain and corn, and yielded more than 100 loads of hay the last year, at a cut of two tons and a half per acre; and all this is owing to the marl!"

We visited Todd's pit, which is by many supposed to contain the finest marl in New Jersey; the supply appears almost inexhaustible, occurring in an unbroken bed of the purest quality, from 8 to 10 feet thick. The owner, Mr. Alexander Cooper, disposes of it by the rod square to persons who dig it themselves; and at this price he is realizing about 1500 dollars per acre for the marl, the land afterwards being more valuable than before. This gentleman feeds his stock with corn and cob-meal, and no where have I seen finer animals or in better condition.

Your Subscriber.

An acre of land contains—

4 roods, (or quarters) each containing 40 poles or perches or rods.
160 rods, 16½ feet each way.
4,840 square yards of 9 feet each.
43,560 square feet, of 144 inches each.
174,240 squares of 6 inches each, each containing 36 inches.
6,272,640 inches, or squares of one inch each.

For the Farmers' Cabinet.

Hessian Fly.

Mr. Editor,—A word to Tycho Brahe. I admit that what is here known as the Hessian fly is unknown *as such* in England. I spoke of it as the fly *generally*, not specifically—just as it is customary to denominate many of those insects, which prey upon the crops in this country, bugs. But in England they have what is there called the Hessian fly—nay more—it is also called cecidomyia, and it preys too on the wheat, although not in the way in which it is attacked by the animal of that name in this country; and nature has there too, provided a check on the multiplication of this scourge, by making it the prey of no fewer than three different kinds of ichneumons, which are often, no doubt, as here, mistaken for the cecidomyia itself. And we find that, while fallowed wheat and that which is raised from the immediate aid of unfermented manure, are very apt to be affected with this *disease*, as it is termed, those raised on an unexhausted and unmanured soil will remain free and uncontaminated, although immediately adjoining; and the preference is always given to clover-lays as a seed-bed, the produce from which is heavier and a brighter sample. But our clover-lays are managed in a way to which your correspondent must be a stranger; they are turned very deep, with a furrow not more than nine inches in width, and the land laid in ridges, if on a moist soil, not more than six feet wide, and carefully rounded, that no water might lodge during winter; with cross drains to carry the water from the open furrows between the ridges, into the ditches, with which every field is provided, and these are carefully cleansed as soon as the crop is sown; and if the plants are lifted by the winter frosts, a heavy roller is passed over the land as soon as the frost has left in the spring, which operation causes them to take fresh root and tiller anew.

It would be in vain for me to attempt to make your correspondent understand what I mean by retarding the premature growth of the crop in the autumn, and thus to render it more able to bear the blasts of an unfriendly state of atmosphere; but if his wheat curls upon the ground at this season of the year, instead of showing erect blades of a light green colour, broad and sharp at the tops, his neighbours might know what is meant by it: his fear, that if it were to remain small on the ground in the autumn, it would be overrun with weeds, is, I dare say, well grounded—but in England we do not grow weeds; and this observation leads me to notice his remarks on the worthlessness—nay, the poisonous quality of his second crop of clover; this, too, is unknown in England, the second cut being quite equal in quality with the first, never causing slobbering in cattle, either while in its green or dry state: but does he not know that this evil arises, not from the clover, but from the weeds which are contained in it, the lobelia or the spurge, which spring up after cutting the first crop, and are able to make head with the second, as that is very generally light and weak? But, as I said, we do not grow these weeds, and if we did, the practice of manuring the first crop of clover, by which it is brought to the scythe ten days earlier, and the luxuriance of the second crop *in consequence*, would go far to choke and rid the land of them; this, however, could never be effected were we to take two white grain-crops in succession; indeed, he is so unacquainted with the mode which we are compelled to adopt to enable us to pay 30 or 40 dollars an acre rent for land, that much allowance must be made for the incredulity, which he expresses, when told that such conduct would subject a tenant there to a prosecution for damages; but I have it in my power to give, for his information, a verbatim clause of a lease of a farm in England, and leave him to form his own conclusions, after boasting that it is the practice in his part of the country to take three: it runs thus—

"I hereby agree to adopt and adhere to such a system of rotation of cropping as Mr. ——, by himself or agent, shall direct, and engage that I will not, in any instance, grow two white grain crops in succession, without being subject to forfeit the second of the said crops, and to pay a double amount of rent for the year in which such crops shall have been taken."

I must just observe, that *our* mowers, too, prefer a smooth surface to work upon, and they have it: but we take the labour to carry our manure periodically from the cattle-yard during the winter, to the clover-field intended to be manured in the spring, where, by turning it carefully up, fermentation is induced, and the mass is rendered more fit for spreading; besides, a heavy roller is considered as indispensable an implement as a plough, and is in constant requisition in the spring, for the purpose of rolling all the mowing land, and even the pastures, by which they are very essentially benefited.

I am quite amused with your correspondent's observation, that the people in his county are able to do better for their cattle during winter than to feed them on second-crop clover hay! Why it is the crop which is expressly reserved in England as food for ewes and lambs while on turnips in the winter—but I had forgot, we do not feed lobelia with it. The stalk of clover which I men-

tioned, was taken from a regular crop, and was not a pet plant tied to a stake; and those who have the means of cutting such crops into chaff, know that the larger and stronger the stalk, provided it have been cut in proper season, and well saved, the more nutritious is the food.

But whatever be considered by others, the *cause* of the Hessian fly—whether it arise from the condition of the soil or the influence of the atmosphere—I must still continue to believe it to be the *effect* of either the one or the other, or both, and leave your correspondent to choose between the "three theories which are now before the public," concluding in the words of a correspondent in the last month's Cabinet,

"How is it, that those of us who have been guilty of planting Hessian flies, will be borne harmless, if it shall please the Almighty to bless us with a genial season? even Miss Morris's *crops of flies* will come to nought, if the weather be kindly, maugre all her attempts at cultivation; nor will they trouble us again until the influences of a blighting year—an unpropitious atmosphere—shall again fall upon us; then again, however, we shall have them, never fear." VIR.

White Carrot.

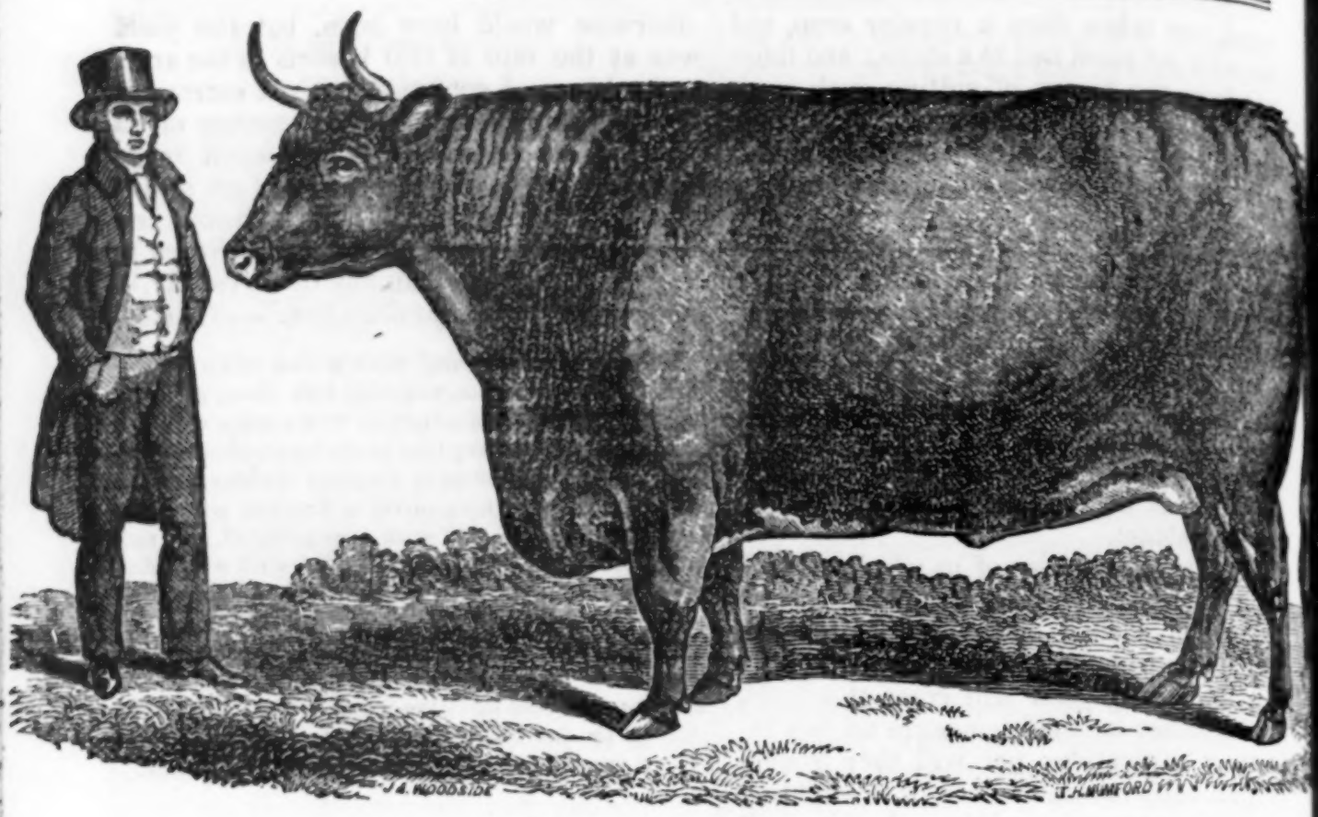
"THE white, or Flanders carrot, introduced from France (where it was first brought into notice by Mons. Vilmorin), by Mr. Bosson, appears, from the description given of it in the Yankee Farmer, to be a desideratum in root culture. It is there stated, one great advantage which it possesses is, that from the comparative shortness of its roots, and their above-ground habits of growth, it is well adapted to shallow soils, which have not depth sufficient to grow the large-rooted varieties; it is supposed to be an amalgamation of the carrot and parsnep. On comparison with the orange and yellow varieties, the seed sown on the 26th of May, the white, under many disadvantages, proved far more productive; and while the former were only 15 inches in length and 7 inches in circumference, some of the latter reached the length of 2 feet, and taking the lot together, were more than twice in quantity than the former. The white carrot grows partly above the ground, like the mangel-wurzel, so that they may be gathered with much more convenience; some of them being 6 inches above the ground, extending 19 inches below, which is more than the length of any other of the varieties; so that besides the extension above ground, the white carrot penetrates deeper than any other. Seed of the white carrot was sown on the 20th of June, by way of experiment; this was late, and on that account the produce was probably 25 or 30 per cent. less than it otherwise would have been, but the yield was at the rate of 600 bushels to the acre, on land in good condition, but not extremely rich. And although, in consequence of its growing out of ground, it is thought to be more suitable to shallow soils, it is not meant that it is less suited to deep rich soils and cultivation; on the contrary, it is believed to be more productive than any other variety in any soil and under any cultivation."—*Selected.*

We have been presented with a root of the above-mentioned white carrot, weighing 2 lbs. 13 oz., perfectly sound and good. The objection to its culture on the ground of its seed lying long in the land before it vegetates, might be remedied by adopting the plan pursued by the extensive carrot-growers in England, whose custom it is to mix the seed with a quantity of very rich mould on a floor, sprinkling the heap with water and covering it with a mat; in a short time the heap will require turning and well mixing, and soon after, the seeds will be found to be germinating, when if they are sown on a fresh and light rich soil, they will spring away at once, and leave the weeds in the rear—it will then be the fault of the cultivator, if they ever after get the upper hand. ED.

To the Editor of the Farmers' Cabinet.

Caterpillars.

SIR,—The last time I visited your beautiful city, I could not but remark the many fine trees in the streets, which were gracefully hung with curiously-formed tassels to the tops of the highest branches, and wondered if their owners were aware that each of these singularly constructed cells, made of the fragments of last year's leaves, and suspended by filaments of silk to the slender twigs, is inhabited by a small worm or caterpillar, which only awaits the genial atmosphere of spring to creep forth, for the purpose of depositing its eggs on the foliage by myriads, to the destruction of the summer's glory. I cannot believe that they would be permitted to remain as they do, if this fact were known and understood, and I therefore take the liberty of requesting that you will call the attention of the persons to whom they belong to this circumstance. It is singular, that although those fragile cells are hung to the most elevated and exposed parts of the tree, their inhabitants do not suffer either from snow or rain or frost, during the course of a long winter, but remain unharmed amidst it all, nor can the severest storms of wind and hail dislodge them, their silken ropes being sufficiently strong to secure them from every violence. Assuredly not one of them should be permitted to remain, but be removed with the greatest care, for, by so doing, millions of summer caterpillars would be destroyed at a blow. I pray you, Mr. Editor, sign their death warrant by an insertion of the above, and oblige A COUNTRY SUBSCRIBER.



THE OX "PENNSYLVANIA."

Live weight, 3350 lbs.; dead weight, the 4 quarters, 2388 lbs.

Eight years old; bred in the State of New York; fed by J. Sheetz, Berks County, Pa.

This magnificent animal, a cross between the Devon and Durham, exhibited in himself the most perfect union of these noble breeds. The mild countenance, pure red colour and delicately-formed points of that race of cattle, which stands amongst the foremost in the ranks of Smithfield, "where prejudice cannot find its way," with the great depth and capacity of the improved Durham, were in him united to form one of the most splendid models ever exhibited in this or any other country. The portrait, from which this engraving has been made, was taken from the life, by *J. A. Woodside*, Animal Painter, No. 88 North 5th Street, Philadelphia, expressly for the Farmers' Cabinet, and exhibits the noble animal, as he really was, an honour to the country.

He was purchased for the sum of $1500, and was slaughtered at Philadelphia on the 2d of February, 1841. On cutting up, the beef was found to be elegantly mottled, the fat by no means predominating to the degree that had been expected; and in this valuable and very desirable quality, the peculiarity of the Durham blood was most manifest, showing that for this purpose, an admixture of the pure short-horn breed is of the utmost importance; but for this, the five years' feeding which had been given him, would have rendered the beef too fat for ordinary consumption, which was not generally the case, the great proportion of lean being remarkable, in so well-fed and ripe an animal: the kidney fat, too, was comparatively light, showing that by means of the Durham blood, the flesh had been laid on the most valuable points, and had not gone—as Bakewell used to say—"to make soap and candles." The following particulars were ascertained by actual admeasurement, while living, and when dead; and are recorded for future reference.

MEASUREMENT ALIVE.

	ft.	in.
Height at withers	5	7
Girth behind shoulders	11	
Do. over the loin	10	9
Length, from nose to tail	10	3
Depth, from brisket to withers	5	6
Width across shoulder	3	6
Do. across hips	2	10
Do. across fore-arm		10
Do. across hock		10
Small of fore-leg below the knee, circumference		11
Do. of hind-leg		11
Width of horns at the tips	2	6

MEASUREMENT WHEN DEAD.

	in.
Depth of chine	22
Do. of brisket	18½
Fat of brisket	11
Top of rib	7½
Thickness of rib	19½
Down the back	4
On the loin	5
Through the plate	9½
Chuck, fat and lean	15
Clean fat of chuck	4
Through the round	19
Rump, fat and lean	16

Loose fat 334 pounds.

For the Farmers' Cabinet.

Subsoil Gardening.

ALWAYS DO YOUR BEST AND LEAVE THE REST.

Some people are afraid to look below the surface soil, apparently regarding it as a sacred spot that must not be disturbed or intruded upon. Now the fact is, too many of us have long been looking at the surface of things, instead of penetrating into the subsoil below and examining its texture, to see if a mine of wealth be not there secreted.

The period has arrived when gardening must commence, and those whose garden plots are underlayed with a stiff, tenacious subsoil, would do well by considering whether some measures might not be taken with it that would render it more certainly productive. It has been demonstrated beyond cavil, that when a tenacious subsoil is dug and loosened up, without bringing it to the surface, or mixing it with the vegetable mould of the surface soil; if the season is very wet, the water descends into it readily, and the plants are protected from the injury of their food being too much diluted with water; and if a drought comes on, the roots penetrate deeper, and are benefited by the reservoir of moisture which lies below; and the capillary attraction in the earth brings the moisture upwards to the surface, and feeds and refreshes the vegetables. Any way you may fix it, it does much good, like all those good, honest old rules that work well either end foremost.

The way to work it is to dig a little gutter a spit deep and the width of the spade, along the side of a bed, and throw the surface earth which comes out of it to the other end of the bed which is to be dug, where it will be required for the purpose of filling the trench which will be left at the conclusion of the work. Then begin at one end of this gutter and dig it up, and turn it over *in the bottom*, from end to end; when this is done, begin and dig in the usual way, turning down the surface soil on to the subsoil which has just been dug; doing this from end to end properly, will leave another gutter, which dig and overturn as before; and so proceed till the bed is all dug two spits deep; the subsoil being turned topsyturvy, but none of it being brought up or mixed with the surface mould.

Trenching differs from this, in turning the whole over, and bringing the subsoil to the surface; but that would be inexpedient when the vegetable mould was not at least two spits deep, unless the ground should be very heavily manured.

Now what is the objection to putting a garden through this salutary process? None at all, excepting that it will require twice the amount of labour; and this may appear to some a serious objection, but its adoption once in four or five years may be sufficient, unless the soil is very stiff and intractable; and it enables the gardener, gradually every year to extend his diggings a little deeper into the subsoil, and by bringing up to the surface a small portion of it annually, the surface soil is constantly gaining depth, which is a matter of prime importance in obtaining good crops with much greater certainty.

Should it be too serious an undertaking to overturn a whole garden in this way in one season, try a single bed the coming spring, and become convinced of the importance of doing every thing you undertake in the best way you are capable of; and then resolve never again to do any thing *well enough*, which means, in common parlance, just as bad as will in any way answer the purpose for the time being. The foregoing plan has no novelty in it, for it has been often done, with the greatest advantage resulting from it. There is no untried theory about it that need scare the most timid; and the writer does not expect to gain any thing further by the suggestion, than the pleasure of seeing many more good gardens, stocked with delicious, flourishing vegetables than he has in times passed witnessed. H.

Oat Sowing.

If the ground be ploughed in too wet a state, no after management, by any other instrument, will recover its suitableness for the healthy growth of vegetables: those parts of fields which were too wet when ploughed, although equally rich with other parts, not only fail to yield a crop the same year, but refuse for years after, owing to the difficulty of reducing the soil into that friable state fit for the reception and nourishment of plants, after having been once stirred into the consistence of mortar; it then becomes, when dry, impervious both to air and moisture, without which no plant can thrive. It therefore behoves the farmer to be particular, lest he sow any kind of grain before the soil is dry enough to receive the seed; the sooner, however, this can be obtained in the spring the better, and the oat crop in particular will be heavier if sown by the first of February. Some farmers intentionally delay sowing, lest late frosts should check and weaken the young plant, but this is groundless timidity: the earliest sown crops, notwithstanding they might be repeatedly exposed to frosts after being above ground, have always turned out the heaviest crops at harvest: the seed should be well harrowed in, finishing with the roller. The best crops are often raised on land ploughed up deep in late autumn, upon which the seed is dragged in as soon as the frost is out of the ground, without another ploughing: the quantity of seed, four bushels per acre.—*Main.*

For the Farmers' Cabinet.

Fruit Trees.

"PROCRASTINATION IS THE THIEF OF TIME."

An interesting and sensible woman, during the past winter, said to her husband; "Now do, my dear, let us plant some good fruit trees the coming spring, that we may have some nice fruit like neighbour H. It won't cost much money or time to do it, and then it will be so pleasant to see them grow and flourish every year, until the time comes round for us to partake of the fruits of our labours.

"The trees of neighbour H. and G. have been planted but a few years, and yet they now bear handsomely: oh! what a satisfaction and comfort it is to have plenty of good fruit; and then I have been told they have each sold during the past season a hundred dollars worth, independently of having a supply for family use, and enough for their friends. What nice apples and pears those were they sent us; how our children did enjoy them while they lasted! Now do let us have some of our own of the same kinds; we can get them at the same nursery, a few dollars will buy them, and half a day's work will plant them, and then there won't be much more to do than to look at them, and see them grow till they bear fruit. Get a couple of grape-vines at the same time, one an Isabella and the other a Catawba; and I should like very much to have an Elsinborough, they are all very hardy and grow without any trouble. We will fix them in the yard, where they will soon cover an arbour, and make a handsome shade in hot weather. Now do, my dear; don't let another season pass without getting them in the ground—two weeks lost in the spring is the loss of a whole year in planting trees."

"Well; well; my dear, you have made so good a speech about it, it shall be as you desire. We will have them at all hazards; I will go this very week and bespeak a good assortment of trees; early and late sorts; and the vines shall be forthcoming if they can be had this side of the Susquehanna. There must be most of the winter apples, a few trees of the early sorts will be enough for house use. The sickle and the butter-pear there ought to be several of, and I should like very much to have a dozen quince trees, they occupy but little room, are hardy, and I am extravagantly fond of them in pies, either green or dried, mixed with other fruit.—Now, jog my memory if I should forget, for I am determined to postpone this business no longer—had I gone to work in earnest, ten years ago, when our two neighbours planted theirs, we should have now been as well off for fruit as they are. Plague on this procrastination! I believe it is one of the worst things in this wicked world—what a blockhead I have been! always intending to have a good orchard of fruit trees, and yet I have put off planting year after year, without any good reason for it whatever—and here we are, growing older every day and no fruit yet—when our more vigilant neighbours are so bountifully supplied. Yes, fruit we will have, if Providence prospers us a few years longer. Aint it a most time to go to bed! why, I believe it is amost 9 o'clock."

F. G.

Montgomery County, Feb. 6, 1841.

For the Farmers' Cabinet.

Delaware and Maryland Peninsula.

Mr. Editor,—There is a subject which has long claimed my attention, and as it is of much interest to agriculturists generally, I ask a space in the Cabinet for its consideration.

Whilst the people of the eastern parts of Pennsylvania are desirous of obtaining land for themselves and their posterity, and are looking to the west for accommodation, they seem entirely to have overlooked sections of country nearer home, where they could be far better suited in every respect. Why not locate in the Peninsula formed by the States of Delaware and Maryland, where land is selling at from 5 to 25 dollars per acre! Land that has been impoverished, it is true, but the means of improvement are close at hand—marl, shell-lime and other lime, can be conveyed to many parts thereof at a cheaper rate than to many sections of Chester county, and if the demand were increased, the article would be yet cheaper—witness gypsum, which is always lowest in price where most in use—and lime from either Bay—Delaware or Chesapeake—at about the same cost, and landed on almost any part of the canal, can be shalloped or boated up most of the inlets; and neighbours could join and make landings on the large streams. Certainly that peninsula will one day become a rich and productive portion of the United States, for where is there, naturally, a more fertile section of country than along the Christiana and its tributaries, as high up as the tide influence extends, or where a more beautiful country in every respect! Wilmington and its environs are remarkably beautiful, and call forth the admiration of the traveller; and yet land does not sell at extravagant prices, even within a short distance of that city. I am aware that the beauty of a place does not go far towards helping to pay for it, yet it contributes largely in the way of selling it when improved. But where is there a country that has greater facilities for

sending its produce to market? You have your choice—Philadelphia, Baltimore or New York; and on your return, can load back with lime, or vegetable or animal manures, which can be obtained in those cities in any quantity. Consider, too, if you prefer to keep a dairy, that Baltimore and Philadelphia are within your reach, and the most comfortable way of going to market possible, namely, by steam-boat. Why that section of country might be made a paradise!

But it is asked, are there no drawbacks, no disadvantages? Yes, there are some; there, as everywhere, men are liable to be sick occasionally; the prevalent disease of that country (as I am informed) is of a bilious nature, but that is all that they have to contend with; there is no complication of diseases—such as we have to encounter—no dysentery, no typhus, &c.; and the physicians having but one complaint to study, become adepts in the management of that, and generally effect a cure very speedily; and truly, a more healthy-looking people are not anywhere to be seen, than the farmers of the peninsula of Delaware. I am aware the idea has gone abroad, that the country is unhealthy, and there may be certain spots deserving that character; but I believe, from a host of evidence, that the peninsula generally does not merit it; and at the worst, it is nothing when compared with that of the western and southwestern swamps and prairies in that respect. There is, however, one inconvenience, the want of water-power for grist and saw-mills, but this will soon be remedied by steam-mills, and it is surprising that the enterprise of some person has not already put such a mill into operation at Delaware City; stone-coal can be furnished in any quantity from either bay, at very moderate prices, which will ensure the erection of mills in proportion to their need.

But this peninsula is not the only section of country contiguous to Eastern Pennsylvania, that holds out inducements to persons desirous of buying large quantities of land with little money; in the counties of Cecil, Harford, Baltimore, and Montgomery, in Maryland, large farms, and some small ones, can be had at from 5 to 15 dollars per acre; land of good quality, some of it having lain uncultivated sufficiently long to be partially rested; while lands on the streams, such as the Gunpowders and their tributaries, are of as good quality as that of Chester county on any of *her* streams. The lands on the Patapsco and its tributaries are of most superior quality—not *equalled* perhaps by any of Chester county; but that fact has been discovered by their present occupiers, and they are not to be purchased at the abovementioned prices. The next stream, west or southwest, of any magnitude is the Patuxent and its tributaries; here the land is perhaps a little inferior in quality when compared with those abovementioned; still it is good, for there you may see the sedge or wood-grass growing half the height of a man, and this I take to be an indication of good land; and here you are about midway between Baltimore and Washington, two excellent markets. Now, what does a man gain by raising large crops in the far West? All he has over and above his own consumption is of little value, and the extremely laborious, toilsome and expensive task of clearing the ground of wood, far exceeds that of liming and improving exhausted land, acre for acre, to say nothing of the inconvenience of ploughing and cropping amongst stumps for an age. Those parts of Maryland here spoken of are quite as well supplied with limestone and fuel to burn it, as Chester and Delaware counties; and there at least the inhabitants are, and ought to be, as healthy as we are, for the country is similar in many respects, as high and rolling, and as well, if not better watered, with mills and mill-seats in abundance. But those who emigrate to this or the other section of country spoken of, would do well to get as many of their neighbours or acquaintances to accompany them as possible, as they can then have schools of their own, and prevent each other from imbibing imperceptibly the southern mode of farming, &c.

Now what I have here said, I believe to be true to the letter, but do not take my word for it—go and see for yourselves.

ERNEST.

Pennsburg, Chester County.

To the Editor of the Farmers' Cabinet.

Poudrette.

SIR,—Having noticed, in the last number of the Cabinet, an inquiry respecting the use of poudrette or night soil, as a valuable manure, and having had some experience in the use of it, I would state for the benefit of others that may be disposed to try it, that in the spring of 1840 I purchased a few bushels for experiment, and applied it first to potatoes, which I planted the first week in April; they were of the Mercer or early kind; a part of the patch was manured with poudrette, a small handful to the hill, the remainder with barnyard manure, a shovel-full to the hill, the after-culture being precisely the same. The last week of June they were dug, and I found that those manured with poudrette yielded one-third more in quantity, and of better size and quality than those dressed with dung. I then tried it on broom-corn, and the same effect was very apparent; also on Indian-corn, with equal success. In the garden, it proves a most superior article of

manure, and I am of opinion that nothing is equal to it for bringing vegetation forward, and securing early crops.

It is manufactured in the town of Lodi, in the county of Bergen, New Jersey, on the branch of the Hackensack river, and can be bought there for 40 cents per bushel; or any person wishing to become a stockholder in the Company and obtain shares at $100 each, can receive 50 bushels of poudrette as a dividend a year, to be paid half-yearly on the 15th of May and the 15th of September; application to be made at 73 Cedar Street, New York City. An old Subscriber.

We inform our inquiring friend that the same article can also be obtained at 120 Nassau Street, New York, but we have had no opportunity of testing their comparative value. Ed.

To the Editor of the Farmers' Cabinet.

Botts in Horses.

Sir,—At page 177 of the Cabinet for the last year, I see slaked lime recommended for the botts in horses, in portions of a tablespoonful three times a week; but in cases of violent attack this remedy would be too slow in its operations.

A neighbour called on me with a horse very much affected in this way, and requested me to give him a teacup full of black pepper and a pint of whiskey, which he administered, but without effect, although he promised that the horse would be relieved in a few minutes; he therefore determined to give him more pepper and whiskey, but I remonstrated against it, and strongly recommended a pint of molasses, which he at length consented to try; this relieved the horse almost instantly, and in a few minutes he hitched him to his wagon and drove off.

In another case, a friend had given his horse, while in the most excruciating pain from this disorder, a gill of turpentine, and afterwards black pepper and whiskey, declining to try the molasses, as he considered it too simple a remedy; the horse at length appearing in the last extremity, he consented to administer the molasses; the effect was almost instantaneous, and in ten minutes the horse was feeding. Now I cannot otherwise account for the sudden and effectual relief obtained from the use of molasses in this disorder, otherwise than by supposing that so soon as the molasses enters the stomach of the horse, the botts quit their hold and feed on it, and this gives the horse instant relief, when a dose of oil would carry them away and effect a permanent cure. Would some of your readers try the remedy, and report through the pages of the Cabinet the result, stating also their opinions regarding this view of the case. S.

For the Farmers' Cabinet.

Canker in Pear Trees.

Mr. Editor,—I wish to inquire through the medium of the Farmers' Cabinet, the cause of the failure of the pear, commonly known by the name of the butter-pear, and to ascertain, if possible, a remedy for the defect. This is the third year in succession, that mine have been affected by a disease that completely arrests their growth when they have attained about one-fourth of their proper size, the outside assuming a dark appearance, covered with numerous cracks or fissures, about one-fourth of an inch in depth. I know not how far the disease has extended, but in this immediate neighbourhood I believe that all the trees are similarly affected. Now if you, or any of your readers, will be good enough to enlighten us on this subject, they will deserve the thanks of all lovers of good fruit, and of none more than of Pomonus.

Lionville, Chester County, Pa.

There is an article on this subject, in the Quarterly Journal of Agriculture, which is much to the purpose, and from whence we copy the following remarks. The writer, Mr. Pearson, says—

"Four years ago, I had one of the best walls of peach and nectarine trees in the country; they were the admiration of all who saw them in the months of August and September, when scarcely a portion of the wall could be seen for healthy foliage and fruit; but the canker and gum committed sad destruction amongst them, during the *cold and wet* seasons of 1837 and 1838, so that I determined to replant the upper part of the wall, where the trees were nearly dead, and which were the *more exposed to the north-east;* but upon removal, I found the roots perfectly healthy, while the branches were covered with one universal canker. I found the border in which the trees were planted four feet deep, of excellent strong soil, but as I do not approve of *too good a soil in a cold climate*, I made the new border two feet deep only, with a stone-drain bottom, and planted it, in 1839, with healthy trees, which made a tolerable start, but the gum and canker were not prevented, and they suffered severely, the summer and autumn being *cold and wet:* the present year they have done better, but the summer has been light, warm and dry. Various have been the theories and various the nostrums prescribed for the cure of this destructive disease, yet I am compelled to differ from the most plausible of them.

That *soil* possesses considerable influence over its products, no sensible man will doubt or deny; but that it is the sole or main cause of canker, the following particulars will show the contrary. Last spring I converted a pine-

pit into a peach-house, and planted two old peach and nectarine trees in it, both intolerably affected with the canker and gum, merely to furnish the trellises with a few fruit, until the young trees should establish themselves — in fact, I considered them as castaways—but now, the middle of October, the two old trees are furnished with most beautiful bearing wood, without spot or blemish: this has convinced me, that to cover the most diseased tree with glass, would be to cure the canker for ever. Now, I am aware that it might be supposed that the removal of those old trees caused them to produce that short-jointed wood which is not so liable to be attacked by the disease, but I have a *patient* out of doors which will answer for itself, and is worth a thousand theories. I replanted this tree at the time I planted those in the house, and during the very favourable spring of the present year, I was gratified to see it make a beautiful start, but the sudden change in the early part of June, *from warm weather to cold*, gave a check to vegetation, and my patient immediately showed signs of disease.

Thus, it appears that a tree afflicted with the canker is completely renovated by being placed under glass; and I am, therefore, of the opinion, that a cold and unfriendly atmosphere is the *cause of the disease*, its severity, of course, aggravating its malignity very considerably.

Mr. Johnson asserts, that the disease commences with an enlargement of the vessels of the bark of a branch or of the stem, but I conceive, that the enlargement of the bark is not the *commencement*, but only an assurance that the disease has already established itself; and that it is not the *returning* sap-vessels which are first diseased, but the concentric glands or pores, which are found in the bark, that are first affected by sudden changes of the weather, and that from the *septic* qualities of disorganised vegetable matter, decomposition or mortification commences, which, thus disarranging the functions of the returning sap-vessels, causes the enlargement; therefore I do not agree with that gentleman, when he finds a resemblance between the canker in trees, and any disease in the animal system arising from *indigestion*, &c., but would rather compare it with those *external* diseases arising from too low a temperature, where, the circulation being stopped, speedy remedies must be resorted to for restoration, or mortification will ensue.

I have two apple trees, planted within 30 yards of each other, and both growing in the same soil; one of them is seriously affected with the canker, while the other is scarcely affected with it—now how is it, that the one is nearly destroyed by the disease, while the other is comparatively free from it? It is thus — I prune my trees bowl-shaped, and when these were young they bore a crop of fruit which brought the branches of the cankered tree almost horizontal, and thus they have remained; and it is these horizontal branches which are nearly dead with canker, from which I draw the following conclusions: that as the scarcely-affected tree is in a sheltered situation, with its branches in an almost perpendicular position, the north-east wind had not cooled the bark below a given point; while the cankered tree, being in an exposed situation, with its branches horizontal, its system has been cooled below that given point, and by that means its natural functions have been checked. Pruning, no doubt, has a tendency to prevent this disease, but as to Mr. Johnson curing his russet apple tree of canker by pruning, it is quite as probable that milder seasons were the real doctor. Wherever a tree is planted, and whenever the whole of its summer shoots are not ripened, it is owing to its being either too tender a kind for the situation, or *the soil is too good for the climate*, or the climate is a very bad one; and when all these evils combine, it is not surprising should the tree die of canker.

In 1828 I had an apple tree of the first quality fruit, but did not know its name; I took an apple to Mr. Knight, who, as soon as he saw it, pronounced it to be the "Golden Harry," a most excellent apple in some situations; he said, "it is one I recommended to Sir Joseph Banks many years ago; some time after, as I was accompanying him round his garden, he said, 'here is the Golden Harry apple you sent me; the tree has run wild, and the fruit it bears *is all cracked to pieces* and is worthless; I shall send it to the rubbish heap.' So much for a good climate on this apple," said Mr. Knight, "your garden being an exposed one, just suits it."

Formerly, it was the practice of writers on the canker of fruit trees to blame the subsoil; but the subsoil of every situation varies as much as the surface soil; and while one blames the cold clay and another the sand, and the prevention of these roots from penetrating these subsoils seems to be the panacea for all the cankering evils of these various situations, is it not singular, that the cankering matter should be found in *every subsoil* with a north-east exposure? The mystery is solved at once, when we consider the withering and penetrating power of the weather upon spongy and unripened wood. The disease may proceed also from bruises and the attack of insects; but all these produce insignificant effects, compared with those of an inclement atmosphere."

Will our correspondent examine carefully his situation, as well as subsoil, and ascertain whether the evil

he complains of might not arise from an unhealthy exposure—possibly a northern or eastern current of wind at the time of blossoming. A pear tree that had borne cankered fruit for many years, and which grew at the north-east corner of a house with a southern aspect, a high garden-wall being between it and the northern exposure, was completely cured of canker, by erecting a piece of close paling on the top of the wall, high enough to defend it from the piercing winds from that quarter—the shelter of the wall, with a southern aspect, forced the tree into early leaf, and then the cutting blasts of the north, operating upon its branches above the wall, produced the most fatal consequences.

Ed.

To the Editor of the Farmers' Cabinet.

Sheep Husbandry.

Sir,—I am glad that you have introduced into your pages the subject of sheep husbandry. I have ever considered it a species of murder to slaughter, as we do, thousands of "bags of bones," without even the attempt to cover them with flesh, not calculating that if they were to share our care and attention in an equal degree with other kinds of stock, they would, in an equal degree, pay for the labour and expense of feeding: indeed it is melancholy to see the poor, miserable, skinny, long-boned, lantern-jawed objects that are exhibited by hundreds on the shambles and in the wagons every market day, with their backs turned inside out, and the very little fat they can boast driven up into their necks and loins—objects of loathing rather than of longing, and still bearing the name of *mutton!* call it sheep if you please, but it is very far from mutton, any how. And yet all these carcasses might be made to carry loads of the finest and most delicious food, by the easiest and most convenient modes imaginable, for it is by no means of necessity that they fall into that state of atrophy, which many of them exhibit when exposed, at their best estate, for sale on the shambles; it is but to take common care of them, and treat them with a portion of that kindness which is paid to other stock, and they will never dwindle away into the contemptible things which we so often witness.

There is no animal which so soon exhibits the value of care and keep as the sheep, nor is there any other which pays *thrice* for the food which it eats—namely, in flesh, wool and dung, the value of all which is greatly enhanced by food and shelter—they can be kept and fed on a large scale by those who have no land, being found to thrive in confinement and under a course of stall-feeding better than almost any other stock; and I have often wondered that mechanics and others in our cities do not feed a sheep or two before winter, as regularly as many do a hog or two; there cannot be more wholesome meat, and when it is properly fatted it bears the salt well, and spends better in a family than the very fat pork which we often meet with at the tables of the working classes. They are a fatting stock far more convenient to persons occupying small premises than hogs, are cleaner, quieter and easier fed, requiring nothing but that food which is the most easily obtained, and when corn and oats are cheap, as they now are, would prove a profitable as well as a convenient fatting stock to many an industrious city family.

But it is in the country where the great benefits of a different system of sheep husbandry would be felt, and where, if it were better understood, its value would be more highly appreciated; and I cannot think of any better way that I have in my power to serve the cause which I so much regard, than to copy for your very valuable and interesting work, some observations on this important subject from a late English work; these, in connexion with your article at page 206, and the drawings of temporary fencing or hurdles in your last, will—or I am much mistaken—set many thinking, and, I trust, be the means of inducing them to practise a system which in Europe has tended more than any thing else to benefit the cause of agriculture. It is there said—

"Of all domestic animals, sheep are of the greatest importance to the farmer and the community; they can be reared in situations where scarcely any other animal can subsist, and in their fleeces they supply an article which, by its manufacture, gives employment and the means of living to thousands, and thus contributes to the productive labour, the commercial prosperity and the opulence—the feeding and clothing of the inhabitants of every country where these animals are bred. Sheep husbandry, therefore, well deserves the best attention of the farmer, for from it no small share of his profits arises. But we are too much disposed to manage our sheep, although the most profitable, with less care than any other of our domestic animals; we compel them to bear the storms and hurricanes of winter, but were we to expend upon them somewhat of the attention we bestow on our horses and cattle, and shelter them from the merciless blasts of rain and snow, and allow them food, the flock would be profitable, instead of, as it often is, a loss.

With regard to sheltering sheep in winter, and otherwise managing them, Lord Western is surpassed by no breeder in the world; and any remarks from him, demand the most serious consideration of every intelligent sheep-owner; he says, "I have a flock of pure merinos, and another of anglo-merinos, of which I have exhibited specimens at the Smithfield

show of fat stock, and also at Oxford, and after three years' experience of the practice, am decidedly of opinion that the fatting stock thrive quicker, and the sheep with their lambs do better than out of doors; I begin by putting them into the yards in November at night, letting them out during the day, and as the season advances, I do not let them go abroad at all, except in a fine sunny day, when the ewes and lambs go on a piece of dry grass, on which I give them cabbages or turnips. I like the litter to accumulate under them so as it do not heat; I think they tread the litter with their little sharp feet quite as effectually as bullocks, and the manure from them is better, the higher they are fed of course the richer the manure. I place salt before them in the yards, and the ewes and lambs consume a large quantity, even the very young lambs eat it with avidity. That sheep do not suffer from confinement, I have abundant proof; I tie them up in stalls like horses, and keep the bucks there from season to season, and they are as healthy as any that are out of doors, and will get very fat. As an experiment, I kept three pure merino wethers every year in their wool, three successive seasons from the time of their being sixteen months old till they were shorn of their three years' fleeces, they were never out of the house, and I never knew them otherwise than healthy, and in good fleshy condition when stripped of their three years' old fleece. I sent one to Oxford that was exceedingly fat, after having a fleece taken from him that weighed 28 lbs., and I shall exhibit another next month *extravagantly* fat, with a fleece of 30 lbs. weight. My fold yards are spacious and surrounded with sheds made in the cheapest possible manner, ten feet wide and six or seven feet high: some persons prefer erecting sheds of more durable materials, but cheapness places these within the reach of farmers with short tenures. I have adverted to every circumstance calculated to recommend the practice of yard-folding sheep in winter, of which I am a decided advocate, and I know of nothing that can render the policy of the system at all questionable when the necessary means are attainable with any tolerable facility."

YOUR SUBSCRIBER.

OFTENTIMES, extravagant praise is bestowed on a light, loamy-land farmer, who has not a stone or other obstruction on his land, and which has been well tilled by his predecessor for the last generation, for the clean and neat state of his drilled crops; while the stony-land farmer, with equal skill and ten times the laborious exertion, is passed unnoticed by superficial observers.

To the Editor of the Farmers' Cabinet.

Cecidomyia.

RESPECTED FRIEND, — Engagements, involving the interests of others, will not permit me to make any references to books for the purpose of replying to the writers who have commented upon the notes I offered for the Cabinet, in relation to the Hessian fly. Permit me, however, to employ the earliest opportunity of expressing gratefulness and thanks for the kind disposition manifested by the author who signs W. L. H., Woodlawn, Harford County, Maryland. It is an act of common justice, in addition, to state, in reply to some others, that neither the American Philosophical Society, nor the lady who originally made the observations offered for publication, is in any way answerable for the insertion of my paper in the Cabinet, or for any thing contained in it. The writer of this, and the paper just named, served, at the earnest and repeated request of personal friends, on the Committee which first reported on Miss Morris's observations; and that at a time otherwise extremely inconvenient, from the burden of engagements, temporary in their character, but consisting in serious duties to others, and utterly destructive of any thing like application. Any one disposed to be severe with a lady should be told that the observations were not designed by Miss M. for publication, but were also requested of her for that purpose by friends, aware of the great labour and accuracy which she had bestowed on the habits of insects. It having been ascertained that the proposed paper in the Transactions would not appear for some interval of time, it was thought that the speedier dissemination of the facts alleged to have been observed, would save time in investigations and experiments on the growing crops; and for this purpose the use of the pages of the Cabinet was solicited. In doing this, inconvenience was incurred; but the hope was entertained of doing some service to the community. I cannot conceive what there is in these efforts to do fellow-citizens a service, that should authorize any one to feel displeasure or offence.

I care nothing whatever for "theories" on this subject. The question is one of facts. Knowing the lady, whose name has so frequently been repeated, to be a careful, minute and intelligent observer, and opinions and assertions on this subject being various and even contradictory, as your last number is of itself sufficient to show, I cannot see any harm in the publication of what she believed she saw, or in the addition of the descriptions from Say.

As to personal charges against myself, of not having read on the subject, they do not

seem to me to have any bearing on the arguments just recited; nor can I suppose this matter is interesting to the readers of the Cabinet. They are curious about a mischievous insect, and not about the deficiencies or faults of an obscure individual in Philadelphia. The paper was inspected by those who had given recent attention to the subject. If a struggle of mutual vanities were desirable, as it is not, it would not be difficult to commence one. The credit of first discovery is, indeed, a question of justice to individuals, whether the praise be due to Miss M. or to some prior inquirer. Any effort, however, towards settling this point, I must be excused for omitting or at least postponing, for the reasons stated at the commencement of the present note. I observe the "pale, green worm," described by Miss M., in a paper of Mr. James Worth, which certainly goes to strengthen her views. Any one accustomed to watch the progress of the natural sciences or the useful arts, knows that it is in this manner that the most important improvements are made; by repeated observations and such occasional advancements, great or small, as opportunity enables us to make. I would wish, further, to remind some of your correspondents of the great danger which exists of converting the license conferred by anonymous writing into a source of impropriety, especially when assailing persons who give their names at full length.

I am, very respectfully,

B. H. Coates.

Philadelphia, 3 mo., 1, 1841.

To the Editor of the Farmers' Cabinet.

Hessian Fly.

The late numbers of the Cabinet afford evidence that the Hessian or wheat fly attracts at least a portion of that attention from the agricultural community which its importance demands; they also show that though much has been attempted and something done, there are still some points in the history of that insect, to be elucidated before any remedy which can be proposed will be likely to receive the entire confidence of all.

A fact of some importance in relation to this matter lately fell under my observation, and as a similar one has not been noticed by any other person, so far as my knowledge extends, I thought it might be proper to give it a place on the pages of the Cabinet.

About the 25th of 9th month last I planted, in a bed in my garden, some wheat which I had carefully selected from a favourite kind, with the view of still further improving it. On one of the warm afternoons which occurred between the 1st and 5th of the following month, whilst looking at my wheat, then just up, I saw something on one of the leaves, which I supposed was the insect in question; and upon stooping down to examine it more closely, I found it with its body curved, its oviduct in contact with the leaf, and I had no doubt in the act of depositing its eggs. Being desirous of observing its operations as long as possible, I made no immediate attempt to secure it, and it shortly after flew away. I very soon after compared what I recollected of its appearance with specimens of the fly in my possession, which were produced from *pupæ* found in the wheat, and had no doubt of its identity with them. I pulled the leaf from which the fly had flown, and upon applying a magnifier, found three or four "elongated, linear, pale-fulvous" eggs, nicely glued down in one of the *striæ* or minute grooves near its middle, but so small as not to be distinctly seen without the aid of the glass. The wheat at that time had shot forth but one blade, and that stood erect; the one on which the eggs were deposited had its concave or upper surface turned towards the south or south-west—being thus exposed to the sun's rays and sheltered from the cold winds, which sometimes blow at that season of the year, they would probably very soon hatch, and the *larvæ* descending but a short distance, would find their appropriate food and accommodations for the winter.

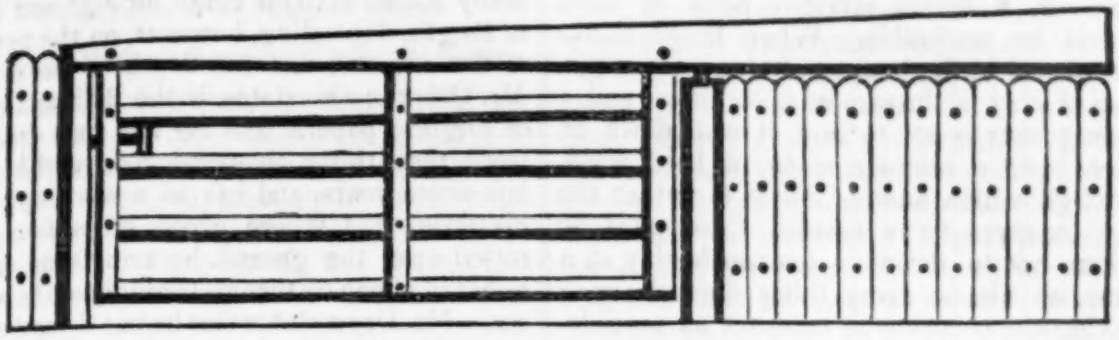
If the above-stated fact should be considered sufficient to settle the question as to the place and manner in which the eggs of the fly are deposited in the autumn, we may still inquire whether the perfect insect ever survives the winter in a state capable of propagating its kind in the spring—and whether the young ever hybernates in any plant except wheat, or some other of the biennial cereal grasses. If these questions can be answered in the negative—and I doubt not the first of them at least may be—the remedy for the evil, and probably the only effectual one that can be applied, is that suggested by W. L. H., in the last number of the Cabinet, viz. the abandonment of every crop which nourishes the insect, for such a length of time as will ensure its total destruction.

P. Passmore.

East Goshen, 3 mo. 1st, 1841.

Destructive effect of Wheat on Sheep.

A flock of sheep, more than 200 in number, broke into a field where was a quantity of wheat bound up and fit for carting to the barn; they had fed heartily upon it before they were discovered by the shepherd, when they were removed to their pasture from whence they had strayed; the next morning 4 of them were found dead, and several others were ill—the morning after, 24 more had died, and as many more were all but dead—and then, the owner sent for the doctor!



ECONOMICAL GATES.

A WRITER in the 3d volume of the Genesee Farmer, estimates the difference of time between passing through gates and bars, where a man and team passes but once a day for half a year, to be equal to three days and a quarter, and goes into a calculation of the amount, of which this time would pay the interest. As a moment's reflection will convince any one that there is a great saving of time in using gates instead of bars, I will give my method of making what may be called Improved Balance Gates.

For the top rail, take a tree eighteen or twenty feet long, and about twelve inches at the butt, diameter; hew the small end for eleven feet, beginning three by four inches at the end, leaving it six by four, at the distance of eleven feet. Now mortice, six inches from the small end, a hole four inches long and one inch wide; also another mortice, eleven feet from the end, six inches long and one inch wide; and a third, midway between the two, five inches long and one inch wide: into these mortices insert slats of good white oak, of a size to fill the mortices, and extending to a depth of four feet and two inches, which will form the height of the gate, and on these lay boards, either four, six, or eight inches wide, and as wide apart as suits your convenience or taste; then take three slats, similar to the first, only thinner, place them on the boards opposite to those morticed through the top rail, and rivet them together, one rivet in each end of each board, and your gate is ready for hanging.

The post on which the gate is made to swing must be strong, and either round or octagon; insert into the top of this post a cast-iron gudgeon, having the end oval, such as is technically called a step-gudgeon; let it project above the top of the post two and a half, or three inches, and insert the box, for this gudgeon to run in, into the top rail so deep, as that it will but just clear easily, the top of the post. The gate should hang so close to the post on which it rests, as not to sag when opened, and if hung right, it will turn as easily as if suspended on hinges. If the end of the top rail is too light, weight must be added, if too heavy, hew some from the sides. The best fastening is a sliding bar, to enter a mortice in the post, so that the gate cannot be raised, nor the bottom shoved through, either way. — *Cultivator.*

The slats and boards for the gate should be made of the lightest wood. If willow is cut in May, or early in June, sawn immediately into scantling, and submitted to the action of fire for seasoning, it will be found to last longer than any other wood whatever, without such seasoning; and be the lightest that can be obtained for this purpose. — ED.

To the Editor of the Farmers' Cabinet.

Clay Drains.

SIR, — There is a most simple and expeditious mode of Draining practised on some of the clay lands in England, which might possibly be introduced into some parts of this country, with great convenience and effect. It is suited to all clay soils that have a sufficient descent, but better adapted to grass-land than to fields of tillage; it requires no cart-work, is very durable, and may be completed for eight cents per six yards in length. The ease with which these drains might be constructed, their cheapness and durability, will, in all probability, be the cause of their superseding all that are now in use, on soils that are suited to them.

A wedge-shaped drain to the desired depth is first made, two inches wide at bottom, widening to four inches, at the distance of nine inches from the bottom; then, five pieces of wood are prepared each one foot long, nine inches deep, two inches wide at bottom, and four inches wide at top, and arched: they may be fastened together by links, or joints, and to the centre of that block which is intended to go foremost, a chain about four feet in length is to be very firmly fixed, having a ring or larger link at the other end, through which a wooden lever six or seven feet long, and pointed with iron, is passed, for the purpose of getting a firm hold in the bottom of the trench, thus forming a lever, to force the blocks forward, after the clay has been rammed upon them. The use of these joints in the blocks is to admit of a drain being turned a little crooked, if necessary; in other

respects, a single straight piece of wood would be preferable. When these blocks are placed in the bottom of the drain, a portion of clay is thrown in upon them, and a strong man is set to ram it well down on them with a rammer made of hard wood, through which another piece is put at the top, to serve for a handle. Care must be taken not to throw in too much clay at a time, as almost every thing depends upon having the covering as compact as possible. At each separate ramming, the blocks should be drawn forward, so that all, *except the last*, can be seen; no pieces of clay can then be left in the water-way, and the filling and ramming go regularly on. It might be necessary, in case the clay is hard and dry, to wet it at the time of ramming, — so much depends upon its being rendered perfectly close, and intimately blended.

The main drains, to receive the drainage from the cross drains, should be larger, therefore the blocks of wood must be larger and deeper, and the ends of the smaller drains should enter them a little *down stream*, to prevent the washing choaking the ends. It is necessary to add, the bottom of the drain must be perfectly clean before the blocks are placed, and the most adhesive clay or soil that has been dug out, must be first thrown in, a small portion at a time, and very well rammed; then that which is less, and still less adhesive, until nothing but the vegetable mould and turf are left, which may be returned at leisure; the blocks being drawn forward by sticking the lever into the bottom of the trench, and forcing them on, until all but the last is seen, when the filling and ramming again commences, as said above. None of the soil must be carried away; all must be returned, and so completely rammed into the trench, that when the vegetable mould and turf shall be filled in, the rib on the top of the trench shall not be more than two inches and a half high; this being a fair criterion of the work being well done. Thus a drain, or water-way, is formed in a stiff, clay soil sub-stratum, out of the reach of the atmosphere, and secured on the top by a wedge of clay, or other strong soil, rammed together more firmly than it was in its original state. In forming the junction of the smaller with the main drains, the small blocks should be placed close against the large ones, and *both should be rammed together at the junction;* and then they may be withdrawn, to continue the drains as above directed.

A gentleman in Gloucester, England, who has executed more than three hundred miles in extent of these drains, within the last four years, declares that the whole charge does not, in ordinary cases, amount to two and a half cents a yard; the digging only, being in many places sixteen cents for eighteen feet in length, depending, however, on the nature of the sub-soil, and the depth of the drain. Mr. Osborne also states, in the Bath and west of England papers, that he has thus drained more than thirty thousand rods within the last seven years, and has so much improved his farm, that where green crops formerly rotted upon the ground, he now feeds eight hundred sheep on turnips throughout the winter. Mr. Drew states that he has these drains cut and finished for five and six cents per rod, opening the drain, for the workmen, by two deep furrows with the plough.

Now how many thousand acres of wet land, at present not only unprofitable, but ruinous to the health of our cattle and sheep, might thus be drained at a comparatively trifling expense, the whole cost often being defrayed by the increase of the first crop, and a *tenfold* advantage derived in following years, in the saving of manure and lime, which would operate in that degree more advantageously by the land being laid dry and healthy.

Johnson Smithers.

Delaware State.

Choice of Stock.

Does it not often happen, that farmers are deceived in the choice of stock? Is not an animal sometimes selected, perhaps at a high price, for its mere beauty, without sufficient regard being paid to its adaptation to the particular use for which it is designed? A good appearance is by no means to be despised, even with an eye to profit; but *real beauty* is frequently dependent upon *fitness*. Now there are many very beautiful cattle, purchased, too, at enormous prices, that, except to please the eye, are far inferior to many lower-priced, and greatly despised, because ignobly born animals. The truth is, cattle are considered valuable, some for the shambles, and some for the pail; and as almost opposite qualities are required in the one and the other, they should be examined, and chosen with special reference to the purpose designed. A person desirous of purchasing a good milk-cow, applied to a conscientious and upright man who had such a one to dispose of. He stated that he had a young milk-cow, of noble blood, and beautiful appearance, which could be purchased at a high price, and the only earthly objection to her as a milk-cow was, that *she gave very little milk;* and what she did give, was *rather indifferent!* It is probable that there is other stock in the market, at the present time, but not so honestly described: "all is not gold that glitters." — *South. Plant.*

To the Editor of the Farmers' Cabinet.

Hessian Fly and other Wheat Insects.

In the last two numbers, 6 and 7, of the current volume, 5, of the Cabinet, and also in some former volumes, several communications have appeared, treating of the Hessian fly (cecidomyia destructor of Say), but I shall pass them by, inasmuch as the natural history of that insect has, for a considerable time past, been as clearly ascertained as that of any other whatever. The first publication that I know of, is by General J. H. Cocke of Virginia, dated October 1817, which describes the fall deposit; see American Farmer, Vol. I., p. 296. The second is by myself, dated 1st February, 1820, also describing the fall deposit; see same work, Vol. II., p. 180. The third is by Dr. Isaac Chapman, communicated to the Agricultural Society of Bucks County, 14th August 1820, said to have been written in 1797, stating its appearance in Bucks County in 1786, and its progress for some time afterwards; also describing its several changes and habits; but the Doctor has only noticed two generations, having blended the second and third together; see Memoirs of the Philadelphia Agricultural Society, Vol. V. The fourth, by myself, dated 12th February, 1821, which traces the history of the insect throughout the year; see American Farmer, Vol. III. p. 187. The fifth is by myself, dated 1st June, 1821; see same volume, p. 213. The sixth is by myself, dated in 1823, treating of the fly and three other insects injurious to the wheat crop, and proposing a remedy; see Memoirs of the Pennsylvania Agricultural Society, p. 165.

I refer you to all of the abovementioned papers, particularly the last; but as many of your readers may not have an opportunity of seeing them, I will transcribe what I deem to be essential.

The Hessian fly, I believe, first made its appearance on Long Island, N. Y., in 1776, or soon after the Hessians were there, and is supposed to have been introduced among some straw which they brought with them; hence the name; but the late Judge Peters, that great friend and patron of agriculture, in his notices for a young farmer says, that the insect was unknown in Hesse, "that its name does not prove its importation, for that appellation was bestowed during our revolutionary excitements, when every thing we disliked was called Hessian. The insect has been accurately described by Mr. Say and Dr. Chapman; but Mr. Say was mistaken respecting the deposit, as the aperture which he noticed in the sheath of the leaf, was occasioned by the insect passing into the winged state, and not perforated in the act of depositing its eggs. The fly is of a dark colour, about the size of the mosquito, and the male much like it except the wings; the body of the female is larger; the wings rest horizontally, and where they join the body are almost pointed, gradually expanding towards the other end, where they form nearly a semicircle. The egg is scarcely discernible to the naked eye, is oblong, of a pale red or amber colour, and placed in the gutter of the leaf, from half an inch to an inch or more from the stalk; the caterpillar, of a pale red colour, is hatched in a few days time (according to the state of the weather) and passes down the leaf to its junction with the stalk, thence between the sheath and stalk, to near the root or joint; it there becomes stationary, feeds on the sap of the plant and, being blanched by its covering, is mistaken for the egg. The first deposit takes place from the fifteenth to the last of April (as the season may be), changes to the pupa from the first to the middle of May, and evolves in the winged state, the latter part of that month. The second generation commences from the first to the middle of June; the fly chooses the stunted plants, and deposits both on the top and underneath the upper leaf, and the larvæ pass to near the two upper joints, but are found mostly about the upper, and in such numbers as many perish for want of food, the increased number being so disproportioned to the plants which suit their purpose; I have counted upwards of two hundred eggs on a single leaf. The third deposit is made in the manner of the first, and commences about the fifteenth or later in August, and is continued on until cold weather; the irregularity of this generation is occasioned by the various situations in which the pupa of the second is thrown, it is lodged in the straw of the stunted plants, so that in harvesting, much of it is scattered about the stubble-fields and the rest is carried to barns or stacked; such as is early exposed to heat may produce a fourth generation, whilst that which is covered till winter may not give a third.

On discovering a fly in the act of depositing, I secured it, and on examination (making the best calculation that I could, and not knowing whether it had deposited any eggs before) I supposed it to contain one hundred eggs; if such be the fact, the first deposit would be one hundred; the second ten thousand, and the third one million, all in the course of one year; happily, however, they have enemies which vastly reduce their number.

The only plants, according to my observations, which are subject to the depredations of the fly, are wheat, rye and barley; rye, owing to its early spring growth, is not much injured; grains should be sown (in this cli-

mate) about the first day of October, as that sown afterwards suffers more from the winter than the fly.

The only remedy which I have any confidence in, must be applied to the second, or summer generation, (it is the only one that I think can be assailed with any prospect of success) whilst in the pupa state, by ploughing the stubble-fields before putting in the next crop; in that case, grass-seed could not be sown among the grain; but by changing the course of cropping, beginning with wheat, rye or barley, followed by corn, and ending with oats and grass, the difficulty might be avoided; nor need the stubble be ploughed till towards the first of April, or any time during the winter; plants about stacks and other places must also be attended to; and let it be remembered that farmers must pursue the same plan, as it is in vain for a few individuals to attempt an object, whilst thousands are united to oppose it. I will further observe, that the surest way to raise a good crop of any grain subject to injury from the fly, is to put the lands in a proper state of cultivation, as where that is the case, and when the season proves favourable, little or no damage will be sustained, although the fly may be very numerous, as it certainly is every year. It is folly to sow wheat on a poor soil.

The insect described by Miss Morris is not the Hessian fly, and I think she is mistaken in the manner of depositing its eggs, it appears to be the same as that noticed by me in 1823; it has three generations in the course of a year, and is observed a few days earlier than the Hessian fly, and the same remedy may be applied to both; the spring and fall generations are to be found near the roots of the plants, and the summer are at the several joints. There is another insect lodged in the straw above the upper joint, which causes the premature appearance of ripeness of the head and prevents the grain from forming; it has not yet done much injury, but may hereafter increase.

There is also an insect which attacks the roots of wheat and causes the stunt or sedge; it is probably a species of aphis, and the remedy must be applied to the soil. I would recommend salt or ashes; perhaps lime might be good. James Worth.

Sharon, Bucks County, 1st March, 1841.

Horticultural Discovery.

The American *aphis* or bug, of late years has proved very destructive to wall fruit, and particularly to our finest winter apple, the Ribston pippin. Mr. M'Hardy, gardener to John Grant, Esq., of Kilgraston, having observed, during the progress of this insect over the garden under his charge, the jargonelle pear uniformly escaped the infection, it occurred to him that by engrafting the Ribston pippin upon the jargonelle stock, the influence by which the latter seemed to resist the attack of the *aphis* might be imparted to the apple. This he accordingly tried three or four years ago, and the result has not only answered Mr. M'Hardy's expectations in regard to the health of the wood, but in the improvement of the fruit, both as to the size and flavour. Specimens of the wood and fruit from the infected tree, and from the engrafted one, are at present to be seen at Messrs. Dickson and Turnbull's here, and the remarkable contrast which they present affords the most convincing evidence of the beneficial effect of the system, which the experience of three successive seasons has confirmed.—*Perth Courier.*

Devonshire Cream.

The peculiarly rich cream of Devonshire (England), called "clotted cream," is obtained by using zinc pans, of a peculiar construction, consisting of an upper and lower apartment; the milk is put into the upper apartment, and, after it has stood 12 hours, a quantity of boiling water is introduced into the lower one; and at the end of another 12 hours the cream is taken off much more readily and perfectly than in the common way, and it is also more abundant and richer. The result of twelve experiments carefully made was as follows: four gallons of milk treated as above gave, in 24 hours, four pints and a half of cream, which yielded, after churning 15 minutes, 40 ounces of butter; while four gallons of milk treated in the usual way gave, in 48 hours, four pints of cream, which yielded, after churning 90 minutes, 36 ounces of butter: the increase in the quantity of cream being 12½ per cent. If it is true that you would thus get some two pounds more butter per week from each cow, the apparatus and the extra trouble attending its erection —to say nothing of the time saved in churning — would soon be paid for.— *Vermont Farmer.*

Remarks.—In the Farmers' Cabinet, Vol. 4, page 91, there is an article on this subject, which goes minutely into all its details, and we would turn the attention of our readers to its consideration. The apparatus there described has been found, in this country, to answer fully the purpose, and a model pan, containing a few pints, is sent for inspection to the office of the Cabinet. It would be easy to fix the pans so that a stream of cold water might be made continually to pass through the casing pan which surrounds the milk, in extremely hot weather, by which coolness might be communicated to any degree required, by means of ice, should this be thought necessary. Ed.

To the Editor of the Farmers' Cabinet.

Hessian Fly.

Esteemed Friend,— Having made a visit to my patch of "Odessa wheat," the seed of which thou gave me, I found it almost all destroyed by the Fly, a specimen of which I herewith send to thee. From this it appears evident that Miss Morris's plan for guarding against the fly, will do nothing; and it is equally erroneous to suppose that the eggs of the fly are deposited in the grain, for the sample of wheat here spoken of was from Europe, *where the fly is not known*, and was sown in this country for the first time. It is fallacious, also, to believe, that the frost will kill the fly in its larva or pupa state, for I found many of the stalks cut off, and lying loose on the frozen ground — which must, therefore, have been exposed to the severest part of the winter — with the flies so forward as to be ready to take wing, so soon as the sun shall have warmed them into existence.

But the destruction of the Odessa wheat is not the worst of it, for I find that my whole crop has, during the winter, suffered much from the same cause, so that the field which was so green and beautiful at the first clearing off of the snow, now lies brown and dry.

Now I believe the only remedy for this great evil is, to manure well, and sow the crop from the 5th to the 10th of October; that is the time which I always observed, until the two last years, and was always successful in raising a crop of wheat; the last year I commenced sowing on the 24th day of September; the Odessa wheat was sown on the 25th of that month.

Sincerely thy friend,

Homer Eachus.

Egmont, Delaware Co., 27th Feb., 1841.

Our friend should pass a heavy roller over his crop, so soon as the frost has left the ground, and the land is dry enough to bear the operation; the plants would then be enabled to strike fresh root, and if at the same time a sprinkling of ashes, marl, poudrette, or lime were applied, as a top-dressing, it is believed that it would be the means of recovering, to a considerable extent, a crop that would otherwise be a total loss. Few persons are aware of the value of a heavy Roller. — Ed.

To the Editor of the Farmers' Cabinet.

Decayed Turnips.

Sir, — Seeing many inquiries as to the cause of the rotting of a turnip crop, without the least appearance of the disease externally, and having had much experience in the raising root-crops of various kinds, I would say, the evil arises from a wet and retentive subsoil. Four years ago, I sowed a fresh broken up piece of land with ruta-baga; it had been in wood, and this was the first cultivated crop that had been raised upon it. The plants came well, and flourished for a season, when some of them began to turn blue, and they were then soon full of the animal, called familiarly, the plant-louse; others, however, retained their healthy appearance, while their internal parts were one mass of corruption; and it was curious to observe, on putting one's foot on a large healthy-looking turnip, and full of foliage, how suddenly the whole superstructure would crush down into complete rottenness, the shell not being more than half an inch in thickness. On examining the tap-roots of many of them, they were found rotten, although the disease had not extended, in some cases, to within several inches of the bulb, while the effluvia which arose, from many, even of the comparatively sound-looking roots, was convincing proof of incipient decay. Many of the roots, to appearance perfectly sound, were packed away for winter provender, but, I believe I may say, that not one of them proved in reality so, and no cattle would touch them.

The winter following revealed the truth, for, on examining the land, it was found to be full of stagnant water to within a few inches of the surface; since then, it has been drained and well cultivated, and I have no idea that the crop of turnips, which I intend to grow upon it the present season, will decay on the land. Should they, however, deceive me, I will tell the truth, and inform you of the result, "right or wrong."

John Sturges.

Delaware State.

P. S. A writer in the Yankee Farmer complains that many of his diseased turnips were injured by Grubs. I beg to say this would not have been the case, had not the turnips been first diseased.

To the Editor of the Farmers' Cabinet.

Preservation of Apples, Roots, etc.

Sir, — We often hear of the decay of the winter stock of roots, and are told, that to preserve them, it is necessary to open the doors of the magazine every fine day, for the admission of fresh air; and also, to leave a passage from the top of the cellar, or depository, by which the damp and foul air might escape, and thus prevent fermentation, which is sure to take place, unless these directions are observed. Now I believe all this is wrong from the beginning, and that to preserve our roots, we ought to bury them so deep, and effectually, as to place them entirely out of the influence of the atmosphere at all times; the next best thing being, to place them in cellars, where no ventilation can ever take place; carefully observing to

close all up as quickly as possible, after taking out as many as would be required for two or three days' consumption. Depend upon it, it is the fresh air which brings on fermentation, and is more than one half the cause of the complaints we have, of the bad effects of feeding sugar-beets to cattle on the commencement of spring.

I am led to this subject, at the present time, by observing, that at the exhibition of the New-Haven County Ag. Soc., in October last, Mr. Foote, of Bradford Co., Conn., presented some apples of the growth of the year previous, 1839, and that they were greatly admired for their beauty and perfect preservation. Mr. Foote observed, they were kept without any extraordinary labour or pains on his part; he merely put them into an uncovered bin in his cellar, which is made secure from frost — of course out of the influence of the atmosphere; and in the spring, instead of opening his cellar for the admission of fresh air, in fine weather, as is usually the case, he keeps all closed tight, as in the winter; the consequence is, that his apples keep sound throughout the summer; and he has no doubt that the admission of fresh air in the spring is the sole cause of their decay. Will those who are so fortunate as to have a store of roots for winter and spring food think seriously of this, and make a fair experiment, for the satisfaction of themselves and those who have experienced the disappointment of their hopes, in the preservation of the sugar-beet for spring cattle-feed. Potatoes have been kept sound and good for two years, by depositing them at the bottom of a dry well; and it is reasonable to expect the same result from the same practice, when applied to the preservation of a root, which, from its saccharine quality, is more likely to run into fermentation than any other crop that is grown. The coming spring will afford an excellent opportunity of putting the matter to the test of experiment.

James Cornly.

Delaware Co., Penn.

To the Editor of the Farmers' Cabinet.

On Surface Manuring.

Sir,—If it be true, that plants can take manure into their system when in the form of water only, then assuredly, a great portion of the manure which is turned down by the plough is lost, to say the least of it; oftentimes, however, the roots of the plants, which are by these means embedded in it during the time of the putrifying process, are seriously injured, being found decayed and quite rotten; witness the instance recorded at page 86 of the Cabinet for October last, where a whole plantation of cherry trees were destroyed by burying at their roots, at the time of planting, a thick mass of stable manure, every tree dying by poison in the third year after planting. The juices of plants must become vitiated by such gross food, and the theory that rust in wheat and various other diseases are occasioned by this poisonous matter, is in all probability correct. It should, therefore, be laid down as a maxim, never to manure for a crop of grain, but to give all that can be obtained to green and root crops destined for the food of cattle.

Then comes the question as to the propriety of applying it to the surface only for these crops; and I am very strongly of opinion that it is the carbonic gas which is of service to vegetation, and is destined by its weight to *descend* and perform that office, while the hydrogen, which has possibly been employed in the formation of that or some other necessary ingredient, passes off by its levity, after its presence is no longer necessary, escaping into the atmosphere to perform again the destined round; and it would, in all probability, be found injurious rather than otherwise, were any attempt made to confine it in contact with the plant, after its necessary office had been fulfilled—according to the theory contained at page 134 of the Cabinet, vol. 5. And I am led to think very seriously on this theory, from the circumstance of the necessity of waiting until the poisonous gas has escaped from a newly-made hot-bed, before any plants or seeds can with safety be consigned to it: besides, the very observable difference there always is between the *smell* of the gas which rises from a fresh-made hot-bed, and that which is evolved after it has become *sweet*—as it is termed—by evaporation, goes strongly to corroborate the truth of the theory, at least so it appears to me.

Cowper, in his inimitable "Task," has a few lines so applicable to this subject, that I cannot refrain from copying them. Speaking of the newly-made hot-bed, he says,

"Thrice must the voluble and restless earth
Spin round upon her axle, ere the warmth,
Slow-gathering in the midst, through the square mass
Diffused, attain the surface: when, behold!
A pestilent and most corrosive steam,
Like a gross fog Bœotian, rising fast,
And fast condensed upon the dewy sash,
Asks egress, which obtained, the overcharged
And drenched conservatory, breathes abroad,
In volumes wheeling slow, the vapour dank,
And, purified, rejoices to have lost
Its foul inhabitant."

J. Douglas.

Berks County.

By industry and frugality, we develope our resources, and are not compelled to become debtors to all who will trust us.

For the Farmers' Cabinet.

Fencing against Floods.

The writer has, from the commencement of the second volume of the Farmers' Cabinet, been one of its constant readers, and subscribers; and from that time to the present, has always felt an anxiety for the day of its coming to the post-office, which has, since it passed into the hands of the present worthy proprietors, been as punctual as the 15th of each month. Yet, notwithstanding the interest which I have ever felt for its appearance, I have not, heretofore, ventured to contribute any thing for its pages; but now that the farmers in many places have sustained heavy losses by having their fences carried away by the late tremendous freshet, I feel a desire for their and others' benefit, who have been similarly circumstanced, to send you a description of a pannel of my fence, which, if placed in such exposed situations, will be found, after the subsiding of the waters, on the place where it was erected, requiring only to be lifted up and replaced—the work of a few minutes only.

Two short posts, say three feet long, set into the ground, and extending above it ten or twelve inches. A pole six inches in diameter, and ten or twelve feet long, forms the bottom rail of the pannel of fence, to be cut flat on one side; the ends rounded and reduced to about two inches in diameter, to the length of three or four inches; these rounded ends are intended to be placed into holes bored of a rather larger diameter, in the posts, six inches from the ground, and in which they might turn. A board, or flat rail, the length of the pole, forms the top rail of the pannel, and to this, and to the flattened sides of the pole, are to be nailed the uprights, at the distance proper to oppose the stock it is intended to pasture on the land; these to be nailed on the up-stream side. The pannel is now made; insert, therefore, the rounded ends of the lower rail into the two holes bored in the posts, and fix it upright by bracing it from the down-hill side of the stream, with poles set slanting for that purpose, and abutting against the top rail of the pannel, to which they must be nailed—proceeding thus until the fence is complete.

When, at the time of a flood the water presses against the fence, the top rail breaks, or the nails draw, and down falls the fence—the bottom rail turning in the holes of the posts—and all will pass harmlessly over; and when the water has subsided, it is only to go and set it up again, as I said—the work of a few minutes only. I will now add, for the information of those who have embanked marsh meadows, that I have had in use, for some time, a particular description of water trunks, which answer the purpose far better than the most sanguine of my hopes; and should the Editor think the above worthy an insertion in the pages of the Cabinet, he may again hear from

Little Delaware.

1st Month, 27th, 1841.

To the Editor of the Farmers' Cabinet.

The Cut-Worm.

Mr. Editor, — I find in the "Agriculturist" a *new* mode of destroying the black grub, or cut-worm. It is nothing more or less than the mode that has been recommended and practised by myself and many others, for many years, and consists merely in ploughing the land in the autumn, or during the winter, so as to freeze their eggs; and this is called *new*. Now, in justice to your correspondent, at p. 95 of the Cabinet for October, I must point to his article on that subject with much confidence, considering that what is there stated, and the reason deducible therefrom, is perfectly rational and satisfactory. The remarks of the "Agriculturist" I shall, however, copy for your insertion, as such testimony comes in addition to what has already been said, and adds much to its credibility, although there is nothing *new* in it.

"The destruction of crops by the cut-worm is incalculable in most parts of the United States, and countless remedies have been offered, but not one that strikes us more forcibly than the following, taken from a number of the 'Genesee Farmer,' the whole *secret* consisting in turning up the ground with the plough, during the winter, so as to freeze the eggs. A correspondent of Judge Tucker says, 'One of my neighbours wishing to try the experiment, broke up one of his fields, adjoining that of another neighbour — the two fields being separated only by a worm fence — during a warm spell in winter, when the ground ploughed in the day would freeze at night; and in the spring following he again ploughed the ground, and planted his corn, but not a cut-worm was seen during the whole season, while his neighbour, who ridiculed the idea of ploughing up land during winter, to prevent the cut-worm from destroying his corn, broke up his in the spring, and planted it also in corn; but what was his surprise, when he beheld his field filled with cut-worms, and his corn almost totally destroyed, while the adjoining field of his neighbour remained unmolested!'" The writer adds; many other experiments have been made, and with universal good success.

John Starkey.

Report of the Committee on Crops.

We, the undersigned, members of the Committee for the inspection of crops of last season's growth, have, according to invitation, examined those grown by the following named gentlemen, to wit:

Dr. Joseph Cloud, of Delaware County—James Gowen, Charles J. Wolbert, and Aaron Clement, of Philadelphia County—Anthony L. Anderson and William W. Roberts, of Montgomery County, and after a careful and impartial inspection of the same, do report as follows:

To C. J. Wolbert, the first premium for 5 acres of Indian corn.

To James Gowen, the first premium for the best acre of sugar beet.

To C. J. Wolbert, for the second-best acre of sugar beet.

To C. J. Wolbert, for the best acre of mangelwurzel.

To James Gowen, for the second-best do.

To James Gowen, for the best acre of sugar parsnep.

To James Gowen, for the best acre of carrots.

To James Gowen, for the second-best do.

To Wm. W. Roberts, for the best half acre of sugar beet.

To Aaron Clement for the second-best do. do.

Your Committee feel great pleasure in stating the gratification afforded them, in witnessing the superior skill and attention bestowed upon the culture of the different crops, as well by the unsuccessful as successful competitors.

Geo. W. Roberts.
Isaac W. Roberts.
Geo. Uhler.

We have given, in our present number, the portraits of two remarkable animals, that our friends may trace the value of a single "dip" of the short-horns with the native breeds of Britain. The Kintore ox was enormously fat—not so the *Pennsylvania*—whose natural points were as finely developed as they could have been in any animal of half his size and ripeness. Our engraving is a perfect likeness of him, and at the request of numerous agricultural friends, proof impressions have been struck from the plate for the purpose of separate publication, which may be had, neatly framed and glazed, price 25 cents, at the Office of the Farmers' Cabinet, No. 50 North 4th Street, Philadelphia.

For the Farmers' Cabinet.

Hereford Ox.

I pray you, Mr. Editor, to adorn your pages with a portrait of the thorough-bred Hereford ox, and in the way in which *you know how*. I confess I am not satisfied with any of the portraits which I have yet seen of this—to my mind—very superior animal; they all want depth of carcass and capacity, and that peculiarity of countenance, which all who have seen that superior stock will readily recognize. I am delighted with the Cabinet and the manner in which its embellishments are brought forward, and can vouch for the faithfulness of those which have already appeared, for I am

A Herefordian.

We had been preparing a portrait of the Hereford ox before we read the above from our correspondent, and shall endeavour to do justice to one of the very finest of the old English breeds of cattle: will he accept our thanks for his good opinion and kind feeling—it shall be our endeavour, as it is our wish, to deserve his favourable notice, and to render the Cabinet worthy his support and recommendation. Ed.

We find that Mr. C. J. Wolbert's famous stock of thorough-bred Durham cattle is advertised for public sale, "without limitation or reserve," on Tuesday the 11th day of May, on the Glenfield farm, 6½ miles from Philadelphia, and 1½ mile from the borough of Frankford. At the same time and place, will be sold the remainder of his live stock, consisting of half-bred Devon and Durham cattle, and pure-bred Berkshire hogs; amongst the latter, several litters of pigs, from 2 to 4 months old, sired by Ben, and Prince Albert.

Amongst the high-bred cattle, will be found the splendid imported Colostra—the sire of most of the young stock, consisting of about 20 very superior young bulls and heifers—and the celebrated cow Flora, from whose milk 20 lbs. of butter have been made in one week. Terms Cash.

The quantity of rain which fell during the 2d month, (February,) 1841, was..... 1.387 inches.

John Conrad.

Pennsylvania Hospital, 3d mo. 1, 1841.

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